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PROCEEDINGS

OF THE

N. H. MEDICAL SOCIETY,

AT ITS

Eighty-Ninth Annual Session,

HELD

AT CONCORD, JUNE, 1879.

CONCORD:
PRINTED FOR THE SOCIETY BY EVANS, SLEEPER AND EVANS.
1879.

PROCEEDINGS

OF THE

NEW HAMPSHIRE MEDICAL SOCIETY.

MORNING SESSION.

TUESDAY, June 17, 1879.

The Medical Society of the State of New Hampshire met in Union Hall, June 17, 1879, at 11 o'clock A. M.

The president, Dr. Alonzo F. Carr, of Goffstown, supported by vice-president, Dr. Thomas J. W. Pray, of Dover, occupied the chair and called the convention to order, when prayer was offered by Rev. A. C. Hardy, chaplain of the House of Representatives.

The president congratulated the association upon the progress of the society, and the pleasure it gave him to meet so large a number in convention. There were one hundred and twenty-five members present.

The proceedings of the last convention having been published and distributed, it was

Voted, To dispense with the reading of the record.

The following committees were then appointed by the chair:

On Reception of Delegates: Drs. Crosby of Concord, Adams of Manchester, and Crittenden of Plaistow.

On Auditing Treasurer's Account: Drs. Cook of Concord, and Parsons of Portsmouth.

To Examine and Report on Patients: Drs. Pray of Dover, Twitchell of Keene, and Blaisdell of Goffstown.

To Report on the Time and Place of Semi-Annual Meeting: Drs. C. P. Frost of Hanover, J. C. Eastman of Hampstead, M. C.

Lathrop of Dover, George Cook of Concord, G. D. Town of Manchester, S. G. Jarvis of Claremont, and S. W. Davis of Plymouth.

The report of the Council being next in order, it was read by the secretary.

REPORT OF THE COUNCIL.

CONCORD, June 16, 1879.

The Council met at the office of Drs. Gage and Conn at 8.30 P. M., and was called to order by the chairman, Dr. A. H. Crosby of Concord.

The roll being called by the secretary, the following members answered to their names:

Drs. A. H. Crosby of Concord, D. S. Adams of Manchester, A. B. Hoyt of Grafton, E. F. McQuesten of Nashua, R. A. Crittenden of Plaistow and C. P. Frost of Hanover; and the following substitutes having been appointed by individual members unable to be present appeared and took part in the proceedings of the council:

Dr. A. H. Robinson of Concord, for Dr. H. A. Weymouth; Dr. George Cook of Concord, for Dr. J. W. Parsons of Portsmouth; Dr. J. C. Eastman of Hampstead, for Dr. William Childs of Bath; Dr. S. G. Jarvis of Claremont, for Dr. H. B. Fowler of Bristol.

The secretary presented the following applications for membership, with vouchers and recommendations, for the consideration of the Council, which were duly examined, and the following physicians were recommended to the society for election to membership:

Dr. GEORGE H. TOWLE, Deerfield,
" JOHN HENRY DEARBORN, Kingston.
" JOHN G. LADD, Pittsfield.
" EDWIN O. PEARSONS, Concord.
" H. P. WATSON, North Haverhill.
" L. J. YOUNG, Candia.
" JOHN H. CUTLER, Peterboro.
" D. E. WELLS, Hill.
" HENRY DEW. CARVILLE, Manchester.
" HENRY S. BOUTWELL, Manchester.
" ARTHUR L. EMERSON, Manchester.
" J. L. ROBINSON, Manchester.

Dr. WILLIAM T. SMITH, Hanover.
" I. A. WATSON, Groveton.
" ALBERT C. BUSWELL, Amherst.
" FRANK EATON, East Weare.
" WILLARD C. KEMPTON, Grantham.
" FRANK B. PERKINS, Wilmot Flat.

The Council received a communication from Dr. Frank W. Graves, of Woburn, Mass., desiring to be placed on the retired list.

It was voted to grant his request, the treasurer to collect any dues that might be in arrears.

Drs. L. W. Peabody of Henniker, and B. H. Phillips of Suncook, requested to be placed upon the retired list by reason of age, and it was voted to grant the request.

An invitation for the society to send one or more delegates to the meeting of the International Congress was read and accepted, and it was voted to refer the appointment of the delegates to the Executive Committee.

Dr. Cook, secretary of the Board of Censors, read the report of the Board for the past year, and the record of the physicians who had been licensed, which was accepted, and the names of those licensed ordered to be printed.

NAMES OF THOSE LICENSED DURING THE YEAR.

Dr. CHAS. A. FAIRBANKS, of Dover, graduated at Harvard in 1877.
Dr. WM. H. GEDDINGS, of Bethlehem, graduated at Med. Col., South Carolina, 1861.
Dr. WM. H. WESTERN, graduated at University of N. Y., 1878.
Dr. H. DE W. CARVILLE, of Manchester, graduated at Harvard, 1878.
Dr. JAS. W. S. McDONALD, graduated at Bishop's Col., Montreal, 1878.
Dr. JOHN GYERE, graduated at Wooster Univ., Ohio, 1878.
Dr. DAVID F. RUGG, of Hartland, Vt., graduated at Univ. Vt., 1876.
Dr. EZRA B. PIKE, of Northwood, graduated at Bowdoin, 1857.
Dr. A. R. DEARBORN, of Concord, graduated at Bowdoin.

Dr. A. C. BUSWELL, of Amherst, graduated at Bowdoin, 1878.

Dr. CHAS. E. QUIMBY, of Jefferson, graduated at Col. Phys. and Surg., N. Y., 1878.

Dr. ARTHUR N. SMITH graduated at Bowdoin, 1872.

Dr. JULIA E. WALLACE, of Concord, graduated at Womens' Med. Col., N. Y.

Dr. JAS. H. WHEELER, of Dover.

Dr. JOHN H. DEARBORN, of Kingston, graduated at Dartmouth, 1878.

Dr. C. A. WOOD, of Greenville, graduated at Dartmouth, 1877.

Dr. J. W. GORDON, of Wells, Me., graduated at Dartmouth, 1878.

Dr. F. P. VIRGIN, of Rochester, graduated at Detroit, Mich., 1877.

Dr. JAS. F. RICHARDS, of Manchester, graduated at Col. Phys. and Surg., 1859.

Dr. ARTHUR L. EMERSON. of Manchester, graduated at Bowdoin, 1878.

Dr. WM. T. SMITH, of Hanover, graduated at Dartmouth, 1878, Univ., N. Y., 1879.

Dr. JAS. M. COLLITY, graduated at Bellevue, N. Y., 1879.

Dr. SIDNEY A. MERRILL, of Belmont, graduated at Bowdoin, 1875.

Dr. WALLACE W. POTTER, of Washington, graduated at Bellevue, 1871.

Dr. HENRY S. BOUTWELL, of Manchester, graduated at Harvard, 1870.

Dr. EDWARD A. ISBELL, of Grafton, graduated at Dartmouth, 1878, Col. Phys. and Surg., 1879.

The Council were informed that in taking care of the poor in county houses, and in some towns, the contract system for medical services was adopted, as in some places it was required by the county officers; and after being discussed the following resolutions were unanimously adopted:

Resolved, That the New Hampshire Medical Society entirely disapproves of the contract system for medical services, as applied to the relations existing between physicians and the various counties, cities, and towns of this state.

Resolved, That hereafter we require our members to obey the spirit as well as the letter of the Code of Ethics, and to charge for services a fair price, especially as we are expected to perform, and do voluntarily render a large amount of gratuitous service to the deserving poor, who are thereby often prevented from making application for assistance upon the towns and counties where they have a settlement.

Resolved, That we most respectfully ask the various boards of county commissioners in our state to listen to our prayer, and not lead us into temptation by offering the county medical service for competition, alike to the educated physician and to the ignorant quack.

Resolved, That the secretary send a copy of these resolutions to the several boards of county commissioners in our state.

The care of the pauper insane in our county alms-houses was brought to the notice of the Council, and the following memorial was unanimously adopted :

That the New Hampshire Medical Society respectfully represent to the Honorable Legislature of this state its firm belief that the insane who are dependant upon the public for support are equally entitled with the more fortunate to the benefit of the laws regulating the custody and care of the insane ; that at present the provisions of the statutes do not extend to them ; that they are exposed to liabilities and embarrassments from which the self-supporting are protected by law ; and the society respectfully petition the Honorable Legislature to take the necessary measures to ascertain the facts pertaining to the subject, with a view to such revision of the law as will bring this unfortunate class of our fellow citizens within the safe-guards and protecting influence accorded to others, and to which they by right are entitled.

The following resolution was unanimously adopted :

Resolved, That a committee of the society, consisting of Drs. Hill of Dover, Parsons of Portsmouth, Eastman of Hampstead, Conn and Crosby of Concord, shall be appointed to bring this subject before the Legislature and urge the passage of the necessary laws to alike protect the life and happiness of all classes of insane persons.

The following preamble and resolutions were introduced to the Council, and after full discussion were adopted:

Whereas, the American Medical Association has, in the interest of humanity and of medical science, adopted a Code of Ethics, which code has been approved by this society, therefore,

Resolved, That the members of the New Hampshire Medical Society fully recognize the above code, and believing that any dogma or exclusive system in medicine is illiberal in its views and detrimental to the progress of medical science, we hold that any support or encouragement of such dogma or exclusive system, directly or indirectly, is derogatory to the profession, unjust to the community, and unworthy of honorable and scientific men.

Resolved, That while we have no desire to interfere with the rights or liberties of any to employ such medical attendants as they choose, still we believe that all should stand upon their own merits, or fall by their own delusions, and therefore are fully of the opinion that members of this society, and all regular physicians, should refuse to meet in medical or surgical consultation, any so-called physicians who make extra pretenses, or practice an exclusive system, or such as declare they will prescribe according to the desires of the patient or friends, and we hold the latter as dangerous to any community.

The above report of the Council, after having been read and discussed, was accepted and adopted, and the secretary was ordered, by vote of the Society, to cast that portion of the report as gave the names of those recommended for membership, as the ballot of the society, which was done, and they appeared, signed the constitution and took seats with the association.

Dr. A. H. Crosby, from the committee on Reception of Delegates, introduced Dr. C. C. Field of Leominster, and Dr. M. H. Chandler of Woodstock, representatives of the Massachusetts and Vermont State Medical Associations, who were invited to take seats on the platform and participate in the proceedings and discussions.

The Committee on the Early Records reported progress, and were continued.

The time having arrived for the president's address, the vice-president, Dr. Pray of Dover, took the chair, and the president, Dr.

Alonzo F. Carr of Goffstown, read an able an interesting address, which was accepted and referred to the Committee on Publication.

Dr. C. C. Odlin, of Exeter, then delivered the oration, having chosen for a subject, "The Country Doctor," which was a well written paper, and was received with marked attention.

Dr. George B. Twitchell, of Keene, read an essay on "Medical Ethics," in which he illustrated his subject from personal knowledge and facts.

Dr. J. H. Wheeler, of Dover, read reports on the progress of Surgery in New Hampshire during the last quarter of a century, compiling freely from the publications of the society. All these papers were well received and were referred to the Commtttee on Publication.

The society adjourned at 2:15 P. M. for dinner, to meet again at 4 P. M.

Dinner was well served at the Eagle Hotel, and was enjoyed by over eighty members, who, with invited guests (His Excellency Gov. Head and Mayor Brown) and the delegates, after partaking of the substantial repast of the table, were called to order by the anniversary chairman, Dr. F. A. Stillings of Concord, and addresses were made in reply to appropriate sentiments, by the president, Gov. Head, Mayor Brown, Chaplain Hardy, Drs. Stackpole of Dover, Smith of Hanover, Russell of Concord, and others.

The society was called to order at 4:15 P. M., by the president, when the reading of papers was resumed.

Dr. D. S. Adams, of Manchester, read an interesting paper on "Differential Diagnosis of Mammary Tumors;" and Dr. S. C. Whittier, of Portsmouth, a report on "Gynecology;" afterwards, Dr. L. G. Hill, of Dover, read a voluntary paper on "Medical Testimony;" all of which was accepted and referred to the Committee on Publication.

The society then adjourned to meet again at 8 o'clock P. M.

EVENING SESSION.

Called to order at 8 o'clock. President Carr in the chair.

Dr. M. C. Lathrop, Committee on Necrology, reported the death of six members since last annual meeting, viz.: Dr. Ezra Carter of Concord, Dr. A. M. Winn and Dr. A. Tremblay of Manchester, Dr. Timothy Kenrick of Franklin, Dr. Mark Walker of Barnstead, and Dr. Thomas B. Dearborn of Milford; also, one honorary member, Dr. T. H. Jewett, of South Berwick, Maine.

Obituary notices were read by Dr. C. P. Gage of Concord, of Dr. Ezra Carter; by Dr. John Wheeler of Pittsfield, of Dr. Mark Walker; by Dr. M. C. Lathrop, and Dr. T. J. W. Pray of Dover, of Drs. Kenrick and Jewett.

These were referred to the Committee on Publication, and it was reported that obituary notices of Drs. Winn, Tremblay and Dearborn would be referred in season for the publication of the Transactions.

By special invitation, Dr. I. A. Watson, of Groveton, read a report of the epidemic of diphtheria, which occurred in 1878, in that place, which was discussed by a large number of the members and referred to the Committee on Publication, and at 11 o'clock P. M., the society adjourned to meet the next morning at the same place at 8 o'clock.

MORNING SESSION.

WEDNESDAY, June 18, 1879.

Called to order at 8 o'clock, the president in the chair.

The delegates to Dartmouth Medical College, through Dr. E. L. Carr, of Pittsfield, one of the delegates, made the following report, which was accepted and ordered to be published in the Transactions:

REPORT OF DELEGATES TO DARTMOUTH MEDICAL COLLEGE.

Mr. President and Fellows:

Having received due notice from Prof. Frost, of the graduating exercises at the close of the eighty-second course of lectures at the Dartmouth Medical College, your delegates proceeded thither; were received cordially by the Faculty, and with Dr. Jones, of the

Vermont Medical Society, entered at once upon their duties. The class numbered one hundred, twenty-three of whom we found anxiously waiting to be interviewed. Each candidate for a degree was brought before us separately, and carefully examined in the various branches of medical study; the thesis, written answers to questions by the Faculty, certificates of time of study, &c., were also carefully examined by us, and we can say that, with one exception, they acquitted themselves creditably, and reflected honor upon their instructors.

The diplomas were conferred publicly in the College Church, by President Bartlett, and made, with appropriate services, a very pleasant addition to the usual exercises. Since the last course of lectures death has again visited the Faculty, and removed the venerable and honored instructor, Prof. Peaslee, and his chair is now ably filled by Prof. Dunster, of New York City.

The impressions which we received of the workings of the Medical College, during our stay there, were good, and we think that with the present able corps of instructors, and the increased facilities for imparting instruction, inducements are not wanting to lead young men who desire to fit themselves for the medical profession, to place their names upon the roll of the Medical College of our own state.

T. J. W. PRAY, M. D.,
EDGAR L. CARR, M. D.

Dr. Hall, of Portsmouth, and Dr. Crosby, of Concord, gave verbal reports of the meetings of the Maine and Massachusetts Medical Societies, and Dr. Lathrop, of Dover, presented the following report of the meeting of the Connecticut State Medical Society, to which they were delegates:

REPORT OF DR. M. C. LATHOP, OF DOVER.

Having been honored with the credentials of this society as delegate to Connecticut, and having, in that capacity, attended the eighty-eighth annual meeting of its medical society, on the 29th ult., I would respectfully offer this report:

The session commenced on the 28th, and continued two days, the first of which being devoted to its business affairs mainly.

On the second day, after the president's address and the reading of one paper, the reception of delegates occurred, with the customary courtesies.

Maine, Massachusetts, and New Hampshire appeared each by one delegate. No other state was represented. Prof. Hammond was present for the New York Neurological Society.

Very brief addresses were made by the several delegates, after which the time was fully occupied by readings, with no extemporary discussions, until the adjournment to the dinner, which was graced by the presence of His Excellency Gov. Hubbard; Charles Dudley Warner, the well-known author; Dr. Gatling, the most noted human destroyer of our profession, and other distinguished laymen, and with its wit and wisdom was a very happy affair, and the final act of the session.

A good resume of the president's address, and of the different papers may be seen in the *Boston Medical and Surgical Journal*, the publication which most worthily, and with justice, lays first claim to the patronage of every New England practitioner.

M. C. LATHROP, M. D.

The reports of the district societies were read by their title and referred, and will be found among the published papers of the Transactions.

At 9 o'clock the society proceeded to the choice of officers, and the following officers were chosen by ballot:

PRESIDENT.

Dr. T. J. W. PRAY, of Dover.

VICE-PRESIDENT.

Dr. GRANVILLE P. CONN, of Concord.

SECRETARY.

Dr. MOSES W. RUSSELL, of Concord.

TREASURER.

Dr. LYMAN B. HOW, of Manchester.

EXECUTIVE COMMITTEE.

Dr. P. A. STACKPOLE, of Dover.
Dr. J. W. PARSONS, of Portsmouth.
Dr. A. H. CROSBY, of Concord.

COUNCIL.

[It was voted, on motion of Dr. Stackpole, of Dover, to increase the number of councillors from ten to twenty.]

Dr. A. H. CROSBY, of Concord.
Dr. H. B. FOWLER, of Bristol.
Dr. J. W. PARSONS, of Portsmouth.
Dr. J. R. COGSWELL, of Warner.
Dr. S. C. WHITTIER, of Portsmouth.
Dr. S. W. DAVIS, of Plymouth.
Dr. H. A. WEYMOUTH, of Andover.
Dr. E. F. McQUESTEN, of Nashua.
Dr. D. P. GOODHUE, of Springfield.
Dr. JOHN WHEELER, of Pittsfield.
Dr. I. A. WATSON, of Groveton.
Dr. S. P. CARBEE, of Haverhill.
Dr. G. C. HOWARD, of Salem.
Dr. L. M. FRENCH, of Manchester.
Dr. J. R. HAM, of Dover.
Dr. W. T. SMITH, of Hanover.
Dr. F. A. STILLINGS, of Concord.
Dr. C. T. LESLIE, of Sunapee.
Dr. T. M. GOULD, of Raymond.
Dr. I. G. ANTHOINE, of Antrim.

CENSORS.

Dr. GEORGE COOK, of Concord,
Dr. D. S. ADAMS, of Manchester.
Dr. L. G. HILL, of Dover.
Dr. C. W. MANCHESTER, of Lebanon.
Dr. G. P. GREELEY, of Nashua.
Dr. J. W. PARSONS, of Portsmouth.
Dr. C. R. KELLEY, of Milford.
Dr. J. H. WHEELER, of Dover.
Dr. A. C. WHIPPLE, of Ashland.
Dr. C. P. FROST, of Hanover.

COMMITTEE OF ARRANGEMENTS FOR THE ANNUAL MEETING.

Dr. J. W. BARNEY, of Concord.
Dr. F. A. STILLINGS, of Concord.
Dr. GEORGE COOK, of Concord.

COMMITTEE OF ARRANGEMENTS FOR SEMI-ANNUAL MEETING.

Dr. C. P. FROST, of Hanover.
Dr. W. T. SMITH, of Hanover.
Dr. C. W. MANCHESTER, of Lebanon.

ANNIVERSARY CHAIRMAN.

Dr. F. A. STILLINGS, of Concord.

The treasurer, Dr. L. B. How, read the annual report, and stated that the funds of the society amounted to about $1,100.00, which was accepted and referred:

L. B. How, Treasurer,
In account with the N. H. Medical Society, June 17, 1879.

DR.

Received from T. Wheat, former treasurer,	$133.58
Amount received for annual dues during '78–9,	78.00
Received from the N. H. Dental Association for 200 copies of the License law,	1.50
Received from the N. H. Homœopathic Medical Society for 200 copies of the License law,	1.50
Received for Licenses issued to Drs. ——— Richards, J. L. Robinson, A. L. Emerson, J. M. Collity, W. T. Smith, H. T. Boutwell, Sidney Merrill, Wallace W. Potter, W. C. Kempton—9 at $1.00,	9.00
	$223.58

CR.

Paid the Republican Press Association for printing 350 copies transactions,	$206.00
the Republican Press association for printing 500 circulars,	7.25
J. B. Clarke for printing 1000 copies of medical laws,	7.50
G. P. Conn for services as secretary for year ending June 16, 1878,	25.00
for 200 postal cards, and printing,	3.25
	$249.00
Due the Treasurer,	$25.42

The undersigned, committee to audit the account of the treasurer, have carefully examined the same and find it to be correctly cast and properly vouched.

F. A. STILLINGS,
GEORGE COOK.

Concord, June 17, 1879.

It being reported that an influence was being used in the Legislature to repeal the present law regulating the Practice of Medicine and Surgery, it was

Voted, That the members of this society are confident that the law aforesaid is of a decided benefit to the public, and we believe it would be a mistaken policy for our Legislature to repeal said act.

The chair appointed as a committee to appear before the proper committee of the Legislature and remonstrate against its repeal, the following members:

Dr. J. C. Eastman of Hampstead, Dr. M. W. Russell of Concord, Dr. J. W. Barney of Concord, Dr. P. A. Stackpole of Dover, Dr. I. A. Watson of Groveton, Dr. D. P. Goodhue of Springfield.

Prof. Frost, from the committee on Semi-Annual Meeting, reported that the meeting would be held in Hanover, in September, and it was voted to invite the Cumberland County Medical Society of Maine, the North Essex Medical Society of Mass., the White Mountain and Connecticut River Valley Medical Society to be present, and inform them it was to be of a social character; the invitation to extend to the families of the members; and the committee of arangements for the Semi-Annual meeting, with the president and secretary, to constitute the committee of invitation.

Dr. S. C. Whittier, of Portsmouth, exhibited a new form of pessary, and explained its advantages in practical use.

On motion of Dr. Cook,

Voted, That Drs. M. W. Russell, A. H. Crosby, and G. P. Conn, of Concord, constitute a committee to revise the By-Laws of the Society, and report at the next annual meeting.

There being no further business, on motion of Dr. Parsons, of Portsmouth,

Voted, To adjourn to the third Tuesday of June, 1880.

GRANVILLE P. CONN, *Secretary*.

REPORT OF EXECUTIVE COMMITTEE.

The Executive Committee made the following report of appointments for the next annual meeting, which was accepted:

Orators—W. T. Smith, Hanover.
C. W. Tolles, Claremont.

Substitutes—Geo. P. Greeley, Nashua.
M. L. Dix, Hinsdale.

To report on Surgery—H. B. Fowler, M. D., Bristol.

To report on Practical Medicine—A. C. Whipple, M. D., Ashland.

To report on the Practical Use of Disinfectants—William Child, M. D., Bath.

To report on Practical Anatomy—L. B. How, M. D., Manchester.

To report on Hydrophobia—C. C. Odlin, M. D., Exeter.

To report on the Metric System—C. W. Manchester, M. D., Lebanon.

To report on Necrology—L. G. Hill, M. D., Dover.

The several District Societies are invited to send such papers as they choose of those read at their meetings, to the Executive Committee of the State Medical Society, that said committee may select such as may be deemed of public interest, to be read at the annual meeting.

PRESIDENT'S ADDRESS.

Fellows:

Allow me to congratulate you upon the recurrence of the annual gathering of the members of the New Hampshire Medical Society, making the eighty-ninth anniversary since its organization, and the fortieth since I had the honor first to unite with it.

Few are present today who were active members then. Nearly all have passed away. Changes have taken place all around us, by no means confined to the medical profession. The people of our state have felt the impulse of the age, and are better educated in matters connected with health and disease than they have ever been before.

The physiology introduced into our common schools, the health primers circulating throughout the community, together with public lectures in city and village, have opened to them the laws of life, while disease and its etiology are far better understood by the average citizen of today than they were by the best informed layman forty years ago. In one fourth of the towns throughout the state, there was at that time an irregular practitioner of medicine, one who had taken up the business with very little, if any preliminary training to fit him for it, whose pretentions were very great, and whose effrontery was in advance of his pretentions, being a source of very considerable annoyance to the regular physician settled down by his side. Few cases of protracted sickness then that did not fall into the hands of the quack, before its termination, much to the chagrin of the regular attendant. The people had not learned that disease has its laws—that there is a succession of processes to take place consuming more or less time, according to the na- nature of the disease, until it finally quits the body. That a majority, if not all diseases are self-limited as to their duration, so that the assurance of the family physician, who intelligently watched the evolution of these processes, placing his patient in the best position as regards posture, ventilation, cleanliness, careful nursing, keeping

the functions of each important organ as near the standard of nature as possible, that all was doing well, and that recovery could reasonably be expected, did not satisfy as now. The idea was that disease was a certain noxious something which medicine must destroy before recovery would take place, and if the regular doctor had not the right kind of medicine, there was a chance that the quack had.

The burden of many papers read before this society, at that time, was some scheme for the suppression of quackery, not recognizing the fact that they were pursuing the only course possible to suppress it, by educating themselves up to a higher standard of excellence, so that the result of treatment, as directed by the well-trained physician, compared with the result of the treatment of the untrained quack, literally left the latter without a foot-hold in community.

Within the past forty years a great advance has been made in every department of the healing art. A group of diseases which today are known to result from mal-nutrition, dependent upon the natural wear of organs and tissues, from the degenerative changes which occur as we advance in years, from over use, or excessive stimulation, making one prematurely or really old, requiring rest as the principal agent in restoration, were, forty years ago, frequently treated without recognizing either of these conditions as the prime factor to be considered before directing a course of treatment. I have in my mind now a person who "doctored" years for old age, his complaint going by so many different names that his friends were much exercised in writing his obituary to assign a name to the disease of which he died.

I would not be understood as speaking in disparagement of the physicians of that time, for many of them were highly educated,—were in advance of the times in which they lived. But the causes which induce disease, as well as its natural history and symptoms, has of late years commanded the attention of men of the first order of intellect in this and other countries, who enjoy unparalleled opportunities, and are aided in their interrogatories to nature, by chemistry and the microscope, so that very notable progress has been made in this regard, and the changes of the human body from its normal condition, which were obscure and perplexing once, are easily recognized now.

What is known today as preventive medicine commanded very little more attention forty years ago than it did in the days of Moses. Sanitary law is now commanding the attention of the educated class in community, and it will not be long before our state authorities will be compelled by the force of public opinion to keep abreast with the reformative movements made by other states in the adoption of measures of public hygiene. Conspicuous within our union are Massachusetts, New York, Illinois, New Jersey, Michigan, and North Carolina, whose reports upon state medicine, embracing papers upon hygiene, etiology, climatology, local epidemics, drainage, food, &c., are in point of excellence quite equal to similar papers in the published documents of European Governments.

Recently our general government has recognized the importance of state medicine, being forced to it by the awful experience with epidemic yellow fever at New Orleans, Grenada, and other points south during the past year.

It is to be hoped that state medicine will meet with the consideration which it deserves by our legislature, and methods adopted to prevent the outbreak of epidemics within our own region of country, and for the benefit of public health generally. The experience of the past year, in some localities, with the single disease diphtheria, shows the necessity of a state medical officer of health, who, no doubt, upon thorough inspection of the surroundings of an infected neighborhood, would be able to fix precisely the influence of certain causes in its production.

New Hampshire is notoriously a healthy state, notwithstanding which many valuable lives are lost annually among our farming population, as well as in our cities, on account of defective drainage from their habitations. The sink water is discharged in many instances in close proximity to the well, and percolates into it, deteriorating its quality. The family gradually become accustomed to the change in the taste of the water, and do not notice it; nevertheless, its continued use will be very likely to originate gastric fever in the fall, and diphtheria in early winter.

The expense of a medical officer of health, whose duty it should be to guard the state against the outbreaks of epidemics, by inculcating sanitary law, inspecting suspicious localities, being at the same time qualified to give testimony in our courts as an

expert upon medical subjects, would not very much exceed the expense of a fish commissioner, and the benefit which would inure to the state every year by his supervision, would be incalculable, as many valuable lives and much suffering would be saved.

It is estimated that only one tenth part of community reach the full term of life, while nine tenths die prematurely. Twenty-six per cent. die of lung diseases, which are more or less preventable; fifteen per cent. of infectious diseases; twelve per cent. of brain and nervous disorders. Rheumatism, gout, syphilis, cancer, scrofula and alcoholic poisoning, ten per cent. Diseases of the heart, six per cent. Violence and suicide, three per cent. Kidney and urinary disease, two per cent.

Such is the general statement of the causes of preventable deaths, given in the order of their relative importance, as reported by the Regr. General of England, in his thirty-seventh annual report, of the correctness of which there is no doubt, and when compared with the recorded observations made in our own country will be found not to vary much from the record.

The causes which operate in shortening the lives of the people are becoming better known than at any former period in our history; this knowledge is fast becoming popularized, and advanced people talk of bacteria and microccoci and the influence they exert in the production of zymotic diseases, which knowledge in time will become more generally diffused among society, and the truth recognized, that to grow a population with healthy bodies and brains requires a clean soil, clean water, clean air, a clean house, clean food, and a clean person.

Having given some attention for a few years past to the treatment of fracture of the lower end of the radius, it has occurred to me that I might append to the foregoing desultory remarks an account of its nature and treatment, which would be of some advantage to the young surgeon, and at the same time render my address not altogether uninstructive.

I am aware that this fracture has been made the study of several distinguished surgeons in our own country, as well as in England and France, so it is not with the expectation of adding to its literature that I take it up, but rather to make a concise and plain statement of the nature of the common varieties met with in prac-

tice, and the usual result of treatment; referring, also, briefly to the more complicated varieties.

When a person falls upon the palms of his hands, which he naturally puts out to save his face from injury, the force of the fall puts the flexor tendons and anterior carpal ligaments violently upon the stretch, breaking thereby the lower end of the radius at its weakest point, which may be from one third to one inch and three fourths from its carpal extremity. Dr. Gordon, of Scotland, has written a small book upon the nature and treatment of this fracture which I have had the pleasure of reading. He had the opportunity to examine twenty-seven old specimens of this fracture of the radius, and asserts "that the line of fracture varied posteriorly from three eighths to one and three fourths inches above the carpal border of the radius, being in ten of the cases one inch and under, and in ten one inch and over, but not exceeding one and three fourths inches."

The fracture is usually from before backwards. Though surgeons have agreed as to the part of the bone broken, they are at variance in their statements as to the precise course of the fracture, which arises from the few opportunities had for *post-mortem* examination, and from the fact that no two are precisely alike.

Among those recorded which have come to my observation I find some nine varieties of fracture, showing that the manner of the break depends very much upon the direction of the force applied, as well as the anatomical condition of the base of the radius, which varies in different bones, as to the amount and direction of the compact tissue, the fracture taking a direction where there is the least amount of compact tissue, through the more spongy and cellular portion of the carpal end of the bone.

A fracture at the distal end of the radius may be transverse, oblique, vertical, impacted and comminuted, depending upon the direction and severity of the force, and the stress of muscular action at the time the fracture occurs. If the hand is in a state of pronation at the time of the fall, the impulse as regards the radius causes a different fracture than when it is in a state between pronation and supination. Some of the worst fractures which have come under my notice have been caused by a sudden slip upon the ice, or wet floor, the person falling with such violence that he had not time to fully turn the hand downward in a state of prona-

tion, but throwing it forward, partly pronated, receives the force upon the ulnar border of the hand, producing that characteristic contour of the wrist which is understood to indicate an impacted and comminuted fracture, as shown by this drawing, the treatment of which, or rather the result of the treatment, is very apt to give a conceited surgeon a charitable feeling toward his brethren.

Happily in a majority of these fractures there is only a tilting backwards of the lower fragment, which is characterized by the silver fork deformity, as shown in the drawing, and known as Colles fracture of the radius; while of the impacted and comminuted variety there are only about eight per cent.; these are marked by considerable prominence, situated just above the back of the carpal bones, while the ulnar border is more or less convex with the styloid process projecting abruptly under the skin, the radial side of the wrist seemingly shortened. Pronation and supination is attended with so great pain, that while attempting either movement the patient rotates the whole of the arm at the shoulder, instead of the natural way.

I suppose it is to be a physiological law, that when a process of bone to which a muscle is attached is broken from the main shaft, without severing any of the muscular fibres, however equally antagonized the flexors and extensors may be, while they maintain their normal position, the muscle attached to the process, whether extensor or flexor, or contracts, dragging the process to which it is attached away from the part of the bone from which it was broken, thus complicating the injury and rendering complete restoration difficult and sometimes impracticable.

Occasionally this fracture cannot be reduced without cutting a muscle to relieve the impaction, which operation, to my knowledge, has not been done to the living subject.

A distinguished surgeon of a neighboring state, who has made many experiments upon the cadaver, publishes this conclusion:

"The fracture never entails permanent disability, the sprain is the fruitful source of long continued, sometimes permanent impairment of the function of the joint."

It seems to me that this conclusion is at variance with the experience of most surgeons. The number throughout the country who have treated many cases of this fracture will be found

small, who can say that all of their cases have done well and that no single one has been followed by permanent disability.

How far experiments upon the cadaver, which ignores the important factor of muscular contractility, so active in the living person, may justify such a conclusion, I am unable to say. But I feel secure in stating that the conclusion is not sustained by the experience of practitioners generally.

The address of Dr. Pilcher, read before the King's County Medical Society, and afterwards before the New York Academy of Medicine upon this fracture, illustrating his views by experiments upon the dead body, the experiments being performed by binding the forearm of the subject to a firm substance and then forcibly extending the hand until the base of the radius was fractured, also by striking the proximal ends of the radius and ulna with sufficient force to break the end of the radius, is a very able and instructive address; but as the part played by muscular contraction in the living subject was necessarily excluded, his conclusions from these experiments must be accepted with some grains of allowance in the treatment and in the result of treatment upon the living man; for in a case of comminuted and impacted fracture, it would be wrong to hold a surgeon accountable for the disability which would almost invariably follow the treatment of some case occurring in his practice, however skillful and watchful he might be.

Perfect coaptation, where there are several fragments, is often very dificult to effect, and this condition of fractures will sometimes occur. Where a person falls with the hand not fully pronated the force of the blow falls upon the ulnar border of the radius which is a little directed outward, or toward the thumb side of the radius, the force being in the upward direction, driving the hand from the ulna toward the radius, making prominent the styloid process of the ulna, and as the lower fragment broken from the radius carries the carpus forward and the hand backward, we have the double deformity of projection at the back of the hand, and concavity along the radial border.

A case of this kind recently occurred in my practice, the person in stepping from her door upon a plank covered with ice, fell so suddenly that she had not time to fully pronate the hand. She has at this time a very useful hand, but the carpal bones are certainly more prominent than when in their normal condition.

There is also one other troublesome variety of fracture which I think was once met with and described by Dr. Bigelow, where the force of the blow drives the end of the upper fragment through the lower splitting it and becoming impacted therein, rendering it difficult to be removed by any amount of traction we may employ.

Never having met with a case of this kind, I am unable to point out its diagnostic signs—but I presume that there is appreciable shortening. Prof. Erichsen, in his recently revised work upon surgery, publishes an interesting case of a man sixty-four years of age who fell to the ground from a height of twenty-five feet. In his fall he broke the left radius just above the wrist, but also met with such serious injuries of the pelvis and abdomen that he died in an hour after admission to the hospital.

By carefully dissecting the arm about twenty-four hours after death he found that the radius was fractured transversly about half an inch above its lower articular end, and that the lower fragment was completely comminuted. The wrist, which presented all of the signs of this fracture in a very marked but not an extreme degree, could not be restored to its normal shape by any amount of traction that he could employ. On exposing the muscles of the limb, it was found that the supinator longus was attached to the lower and the pronator quadratus to the upper fragment, the latter muscle being slightly lacerated at its lower part; the upper fragment was strongly pronated.

The chief cause of displacement and the main obstacle to reduction were found to exist in the two radial extensors, the tendons of which were strongly defined.

On dividing these tendons, and on pressing the lower end of the upper fragment outwards, reduction was easily effected. In this case there was no impaction or interlocking of fragments, but muscular action prevented the reduction.

These complicated fractures are liable to occur at any time, but I doubt whether the most astute surgeon can determine their exact nature, for they vary in their character according to the amount and direction of the force employed in their production and the stress of muscular action at the same time.

The indication of treatment is to restore the wrist to its natural shape, which will require more or less traction and intelligent manipulation, which the common sense of the surgeon must direct, as no

stated rules can be given. In the ordinary fracture, where there is a simple tilting back of the lower fragment, moderate extension and pressure by the surgeon's hand will restore the wrist to its natural shape.

The rule should be never to leave the wrist until you are satisfied with its appearance.

Where the styloid process is caught in the annular ligament, to execute the circumduction manœuvre recommended by Prof. Moore will liberate it. and for several years I have made it a point to rack the joint laterally and forward and backward, as first suggested to me by Dr. George Crosby, of Manchester, for the purpose of liberating any fragment which might cause a degree of impaction and produce deformity, if suffered to remain undisturbed.

Sometimes in adjusting a fracture of the Colles variety, especially where the force and direction of the blow has ruptured the radio-ulnar ligament, the carpal fragment broken from the radius is not accurately restored to its normal position, or not well retained in apposition during treatment, considerable deformity follows. The hand swerves to the radial side and the ulna projects prominently as is shown in the drawing, which was made from the hand of a patient of one of the best educated surgeons in the state, disclosing the fact that in the practice of every physician, now and then, a case does not do well, and that charity is a grace to be appreciated by all who have much to do with fractures of the lower end of the radius. Not that a large proportion of cases do not do well ; but occasionally one does not, and my idea is that it should be considered as an unavoidable accident wherein the surgeon deserves commiseration, rather than denunciation, which has been the old time way too long and should now become obsolete.

For the purpose of retaining the fracture in apposition a variety of splints have been used, all having more or less merit. The straight splint, padded in front ; the pistol shaped splint of Dr. Gordon, and the felt splint of Bond.

For many years I have been in the habit of using the one I now exhibit, which is light, simple, easily constructed and applied, and at the same time comfortable and efficient. It has one advantage over all others, it can be improvised at any time and place, at home or away from home. With a piece of round wood and a

shingle, by padding with cotton cloth, a good compress can be made, and an efficient splint. I am informed that the surgeons of St. Louis prefer this form of compress. The round piece for the hand to grasp, relieves the tendency to pronation, which is generally present, and thereby the normal antagonism of muscular action is sustained.

The object of this splint is to maintain coaptation and keep the parts in a state of rest while nature repairs the injury. I think you will find it a simple method, easily applied, affording the patient comfort and exemption from pain, and adequate to maintain coaptation and rest during treatment.

Gentlemen, I thank you for the attention you have given me—I wish that I could have entertained you better, and will close by alluding to the general good health of the members, and the few deaths occurring within our ranks the past year. Among so large a body of men, so frequently exposed to the inclemency of a New England climate, and to the infection of disease, the degree of health which has prevailed is a matter of congratulation to us all and of thankfulness to our Heavenly Father and Protector.

MEDICAL ETHICS.

BY GEORGE B. TWITCHELL, M. D.

Mr. President and Fellows :

Your committee having designated me to write a paper upon medical ethics, I now appear before you, not from a desire to discuss this subject, or because I feel myself peculiarly fitted for the work, but because of my unwillingness to shirk any duty which may devolve upon me as a member of our time-honored society.

Medical ethics ! medical morals ! it would hardly seem necessary to elaborate this subject, for all that could be said about it might be epitomized in the words of the Golden Rule, "All things whatsoever ye would that men do to you, do ye even so to them." This covers every point in our code, and had we kept the spirit of this rule unadulterated in our minds, and its precepts written in letters of light upon the tablets of our hearts, our code of ethics need never have been written. But in too many instances writing upon the tablets of our hearts is like writing upon the sands of the sea shore, clear and distinct for the moment, but with the waves of self-interest, or the rising tide of jealousy, the letters are obliterated and nothing but a blank surface is left, ready to receive any new impression that envy, conceit, or ignorance may make ; yet I believe these letters are not obliterated, but only covered up and concealed from view by the drift of selfishness and egotism, which by thoughtful labor, and listening to the still small voice of conscience may be removed, leaving the written precepts bright and legible, a perfect guide for our professional conduct.

It is for the purpose, as far as I am able, of clearing away the obstructions to the correct wording and understanding of the code of ethics, which our fathers in their wisdom thought best to make for their and our guidance, that this paper is written, and if by any effort of mine the jealousies and rivalries which so notoriously exist may be smoothed over, and we be made to realize that we are all

brothers enlisted in a common cause and with one object in view,—the good of humanity. That which is for the interest of one is for the interest of all, and as we raise ourselves above personal strife and personal ambition, as we elevate the standard of our profession and give it character in the estimation of the community, and by so doing cast into the background and degrade to their proper places the various forms of quackery which are rife in the world, so we will raise our profession to the plane upon which so many of our devoted and self-sacrificing members have been laboring to place it.

And here let me say that I write from no personal feeling, and that my illustrations are to be considered as only hypothetical, and therefore having no reference to any particular individual.

Some, and I fear many, within our ranks consider the profession of medicine only as a means to an end, and that end mainly the accumulation of wealth, and not as a noble and beneficent art, which has to do not only with the physical and earthly nature of man, the body, but also with that higher and spiritual nature, the soul, for in our intercourse with our patients we are called upon to treat not only the diseases and derangements of the body, but also of the mind, and in so doing we are drawn into close relationship to him, becoming, in fact, part of himself, absorbing into our hearts all the secret influences which may have governed his life, and we find ourselves not only his physician but also his spiritual advisor, and as such often called upon to perform duties which, for their proper discharge, require a development of intellect and will of a much higher order than would be required were we but laboring for our daily bread, regardless of anything further than our own personal advancement.

Does not this fact raise our calling above that of the daily laborer or artizan, whose duties have reference only to the animal and earthly nature of man; and should not the rules of conduct, which should govern us in our intercourse with our patrons and with each other, be upon a much higher plane in the one instance than the other?

That man who enters upon the practice of medicine as the mechanic or merchant enters upon his calling, merely as a means of acquiring wealth, or a position in society, and with no higher object in life than his own personal advancement, and to make

the most money out of it, is unworthy to fellowship with us, and has no rightful claim to the title of physician; and such an one no words of mine can influence, for such a mind cannot appreciate the self-sacrificing and unremitting labors of that noble army of martyrs to duty, who, in all ages of the world, have been found wherever danger and death were lurking, whether on the field of battle, amid blood and carnage, or in the lonely hovel where the deadly typhus was clasping in his embrace the poor and destitute, or in the plague stricken city, where death stalks, seizing upon every one, high or low, rich or poor, who comes within his grasp. Our hearts throb, and the blood rushes more rapidly through our veins as we listen to the glorious deeds of our great generals, and the brave acts of our soldiers, who in the face of shot and shell charge up to the furnaces of fire which are dealing destruction to all before them, and fearless of death carry the works of the enemy. We speak of those acts as glorious, and point to the battle-scarred veterans as the embodiment of bravery. But, Fellows, what are these acts, done in the midst of excitement and enthusiasm, the animal nature inflamed and maddened by the sight of the dead and dying, by the flashing sabres, and the thunder of cannon, and the shriek of shot and shell, compared to the acts of those who, when called by the cry of distress and disease, leave the quiet of home and wife and child, to brave the dangers of the pestilence, and uncheered by the hope of reward, and unstimulated by the enthusiasm of companions, have labored by night and by day, smoothing the pillow and the fevered head, quieting the pains of the suffering, and promising hope and comfort to the dying soul, and doing all this without any hope of earthly reward, but from love of his profession and love to his fellow man until he falls before the foe that he has been ever battling? And yet the form and features of the one is chiseled in marble and raised upon a pedestal as a monument of bravery, to be admired and emulated by the world; and the other is forgotten, or only lives in the hearts of his family. No civic honors to him who has saved the lives of the poor and helpless, and has walked amidst the pestilence and famine, carrying hope and comfort to the dying, but only to him who has slain his thousands and whose feet are wet with the blood of the victims of passion and personal ambition! How long will it be, think you, before the devoted labors of those one hundred and fifty brave men, who,

during the last year, when the yellow fever scourge was decimating our western cities, laid down their lives at the post of duty, will be forgotten? Though the ties of kindred, of affection and of friendship were often forgotten by those craven spirits fleeing for their own safety, leaving their wives, children and friends to the care of the stranger, yet our brothers, flinching not, faltering not, and with no thought of fear, remained at their posts, administering to the sick and suffering, cheering the despondent and smoothing the brow of the dying. How long, I ask, will it be before the self-sacrificing labors of these devoted men are forgotten? Like those noble hearts who sprang to arms when the thunders of the cannon that opened upon Fort Sumpter reverbrated over our hills, our brothers, leaving the comforts of home, the smiles of loving wife and children, forgetful that the hands of those whose homes are now stricken by this terrible plague were but a few short years ago raised against the lives of all they held dear, forgetful of everything in the past, but listening only to the cry of distress, and with no hope of bounty or reward other than the approval of their own consciences, with no thought of personal danger, rushed to the post of duty, and battling with the destroyer, laid down their lives upon the field of contest. Where will you find bravery exhibited more fearlessly than on such a field? And whose acts deserve more to be embalmed in marble or rendered immortal by the pencil of the painter than such as these? And yet, Fellows, we are stimulated by the hope of no such reward when we volunteer for the strife, but we go forth unheralded, and when we fall, we are buried in the grave of oblivion, and our only epitaph is, "He has but done his duty."

I know that it is true, in these days of railroads, telegraphs, telephones, spiritualism, free thought and radicalism in religion, morals and politics, that man's reverence for God, for virtue, for purity, for honorable age and modest merit, is in danger of being swamped and considered an evidence of a cowardly spirit; and therefore we find empiricism in religion, morals, politics, science and medicine rampant, and he who boasts the loudest and puffs himself the most is pecuniarily the most successful, and in the popular idea more worthy to receive the honors which the world has to bestow.

But, Fellows, we have a higher nature, and we believe that there is a world beyond this, into which we cannot enter except we cast

off the dross and rags of selfishness that have covered and disfigured our souls here, and are clothed only in the garments of purity and love to mankind. And woe be it to that man who, forgetful of that future world, has lived only for this, and for his own selfish enjoyment, and who, having cast off his earthly garments, finds himself, by reason of his nakedness, unfitted to associate with those glorious souls who, whilst in the flesh, realized that this life was but the beginning of eternity, and this earth but the portal of that mansion into which none but the pure in heart can enter.

But we are mortal also, and though our souls may find satisaction in the knowledge that in that higher life they shall receive a full reward for their labors, trials, and sufferings here, yet the mortal man has earthly wants to be satisfied, even his wife and children have to be clothed and fed, therefore we must not neglect to provide in some way to meet this demand; but how to do this it is not my province now to show, even were I able to do it. I know that in too many instances we do not even receive the gratitude of our patient as a reward for our labors, much less any pecuniary compensation, and we may even call ourselves fortunate if we get off without a suit, or the threatening of a suit for malpractice; such being the fact, it might be well, perhaps, should we follow the suggestion of one who wrote more than three hundred years ago,—

HOW TO FORESTALL THE INGRATITUDE OF PATIENTS.

"Knowledge not gratis comes. Nor without fees,
On sick men would attend Hippocrites.
When any doctor first attends a call
The patient would bestow the world and all,
But once relieved, and safely out of bed,
The doctor's aid from memory has fled;
And most of all, if he should dare to ask
Reward or pledge due for his thankless task,
For an old pledge is a good bond 'twixt friends,
Until collected, when all friendship ends.
Let doctors then, while sick men groan and whine,
Demand that they some legal pledge assign,
For when their pangs and sufferings all are flown
O'er pledges given, they will curse and groan;
Then always ask the patient for thy fee,
Ere yet from danger he is saved and free,
Since, when released from fell diseases claw,
None pay the doctor, 'till compelled by law.

Hence, 'tis that every costly drug is thought
Much better of for being richly bought;
While from all skill, which gratis we bestow,
No usefulness is ever deemed to flow.
Things pay for things, words pay for words in kind,
For vain words, give the cheapest herbs you find,
For high fees give such precious drugs as are
The witty compounds of the *species-jar*.
Let doctors then, of whatsoever school,
Remember to observe this prudent rule:
When tortured patients cry out, '*Oh! dear me!*'
Then let each say, 'I'll thank you for my fee.
Yes, pay; discharge the obligation now,
Ere like the rest, the thing you disavow;
Men freed from pain, we find, too soon forget
How much to faithful doctors there're in debt.'
Be sure to ask your pay while lasts the pain,
Or else at law a suit you must maintain,
And the recovered man, indignant, will
Exclaim, '*I've paid, twice paid, this costly bill!*'"

But we have also duties to our patients, and though the laborer is always worthy his hire, yet we ought never to let this motive control our conduct, but should be as ready to answer the call of the lowest and poorest of our fellow creatures, as of the highest and richest; and each class is equally entitled to our patient care and best judgment, for we have enlisted to fight our common enemy, disease, and the more exposed the lives against which he makes his assault the more ready should we be to repel him, and unworthy to fellowship with us is that man, who, because a fearfully contagious disease had attacked the family of some poor man, whose means are such as to make it certain that he never could render any compensation for the services rendered, should for that reason refuse to attend or give inadequate attendance. I recall an instance that once came under my observation, where the attending physician, after the disease had been pronounced by the consulting physician as small-pox, never again entered the room, but once went to the window to make inquiry, and then declined to attend, saying that "he did not understand how to treat the disease." Had the patient been rich and abundantly able to pay any charge, do you suppose his courage would have thus oozed out at his finger ends, or he be so ready to confess his ignorance? Such conduct is unworthy the true physician, and such a man should be drummed

out of our camp as a coward, and unfit to associate with honorable men.

Having accepted the trust, our conduct towards the family of our patient, and the patient himself, should be governed by the principles of exact truth and honesty,—we have become, as it were, one of his family, and his confidential adviser, and should so hold ourselves to him and the outside world. Our intercourse with the family and patient should be marked by the same rules as those of the confessional, and no secrets gained by this familiarity should be divulged under any circumstances whatever, and I hold that even the courts of justice have no moral right to call upon us to disclose any facts that may have come to our knowledge in our professional intercourse with our patients, and I believe in some of the states the courts hold that such information is privileged, and the physician cannot be compelled to disclose; and yet I am sorry to say that there are many in our ranks that forget this obligation, and hesitate not to divulge matters and incidents which they must have known would hurt the feelings, to say the least, of those who have confidently trusted to their honor. We all have our foibles and failings, which we would not wish the world to be cognizant of, yet how often, for the sake of a good story, do we hear the whinings and weaknesses of our patients held up to ridicule, and too often the *faux pas* of those whom suffering has compelled to trust us, have become public by the careless word, to use no stronger expression, of some of our number. Such conduct, Fellows, cannot be too strongly condemned, for I consider it a breach of trust, compared to which the defalcations of money trust are venial, "for he who steals my purse steals trash," "but he that filches from me my good name robs me of that which not enriches him, and makes me poor indeed."

In our intercourse with our patients we should avoid all assumption of superior knowledge, or the temptation to magnify the severity of the disease, or to express gloomy foreboding, that we may arrogate to ourselves superior skill in saving our patient, for this savors of empiricism, and yet how often it is done! Who has not heard the recovered patient say, "the doctor said that he never knew another person as sick as I get well," or "if he had been called an hour later it would have been too late." But more than this, have we not heard the remark, "I am sorry that you

did not send for me before, for I could have saved your child,—it is too late now;" and this when he knew the patient had been under the care of an intelligent physician from the first. Can you, my friends, imagine an act more dishonorable than this? How does this expression strike you: "I am very sorry for Dr. A., I always considered him a good physician, and yet he has been unfortunate and lost several cases of scarlet fever; I never lost one." Was this to be considered as an expression of sympathy for an unfortunate friend or a stab in the dark at a rival physician? Or again, in the consultation room, do not some of our older members covertly endeavor to throw discredit upon our younger brothers, by putting on an appearance of superior wisdom and making a parade of a radical change in the treatment?

I heard of an instance a few days since, in a chronic case, where the disease was somewhat obscure, but was supposed to be located about the pyloric orifice of the stomach. After much time spent in the examination, the consulting physician pronounced the diagnosis as "wrong, for the disease was not in the stomach, but in the duodenum, about three inches below the stomach;" and after the attending physician had left the house, told the wife of the patient to "take some of his urine and put it into a vial with a little yeast, cork it up tight and put it in a warm place, and if there was sugar in the urine the cork would be thrown out;" and this when there were no symptoms of diabetes, and when the subject of diabetes had not been broached in the consulting room, or in the presence of the attending physician. What was this but an endeavor to magnify himself and belittle the attending physician? Is such conduct honest, and is it doing as we would be done by? And yet I fear that some of the young men who hear me may recall instances as marked as this. Such conduct I associate with ignorance, for the educated physician will not descend to such meanness. I fear the counterpart of the following instance, taken from a "Report on the present condition of the medical profession," delivered before this society more than forty-five years ago, by the late Dr. Amos Twitchell, may be found now, if not in fact, yet in spirit: "The following circumstances are related to me by a respectable clergyman of this state: A farmer, one of his parishioners, had the misfortune to fall from his cart, and one of the wheels passed over him, directly across his abdomen. Although

the vehicle was not heavily loaded, yet he was somewhat bruised and very much frightened. A messenger was dispatched with all possible haste for the doctor who resided in the neighborhood, who came with due speed, and, as a thing of course, bled him largely, and administered a dose of castor oil. The doctor was then informed that they had sent for a surgeon who resided some twenty or thirty miles distant, whose reputation was unrivalled in that part of the country. The next day the minister was sent for, who, with the neighboring physician, was present when the surgeon arrived. The patient had passed the night with a good deal of anxiety, although with but little pain. The arrival of the great doctor was announced; the family and friends all crowded around the bed of the patient; the surgeon entered the room with his saddle-bags upon his arm, and turned his eyes directly upon the wounded man. He stood several minutes gazing upon him, during which his countenance put on the most direful and portentous aspect. At length he shook his head, set down his saddle-bags and laid off his hat, drew up a chair and seated himself by the bed, placing one hand upon the abdomen of the patient and with the other felt his pulse, and said nothing. Some minutes passed in this manner, when the death-like silence of the room was interrupted by the anxious and affectionate wife, tears streaming down her cheeks, saying 'Doctor, what do you think?' A shake of the head was the only reply. The children burst into tears; one little urchin, too young to fully realize what was going on, hearing the sobs of his brothers and sisters, threw down the cat with which he was playing and ran to his mother for an explanation; then, unfortunately for poor puss, the doctor espied him, seized him by the hind legs and smashed his head upon the hearth, drew forth a knife and convinced the spectators that he was a dextrous operator by instantly depriving the cat of his skin, and applying it directly upon the abdomen of the suffering man, again seating himself, with one hand upon the wrist, feeling the pulse, in which posture he continued half an hour, and then for the first time after his arrival, broke silence by inquiring if they had any sheep. Being answered in the affirmative, he requested that the skin might be stripped from one of them and brought to him immediately, which was accordingly done. The doctor instantly removed the cat skin and enveloped the patient in the warm sheep-skin, and continued silent-

ly watching him as before. The anxiety of the patient and family was extreme during this farce, which was manifested by the inquiry of 'Doctor, what do you think—is there no hope?' but not a word could they obtain. After remaining in suspense nearly an hour longer, closely watching the countenance of the doctor, they discovered that the muscles of his face began to relax. At length he smiled, and then broke the silence and said: 'We have gained it; you are safe. If I had been five minutes' later all the world could not have saved you; the mortification was just beginning.' In the course of a day or two the person was able to pursue his labor as usual, believing that his life was saved by the great skill of the surgeon." This is an extreme case, but do we not know of instances where the consulting physician has tacitly permitted the idea to go abroad that it was only by his superior skill and wisdom that the patient's life was saved,—that the attending physician had entirely mistaken the case, and had he not been called at that moment no earthly power could have saved him? And knowing that such reports are in circulation, does he take pains to correct them; or, rather does he not give countenance to them by admitting that the patient was indeed very sick, and that the attending physician, being a young man and not having had much experience, was mistaken, but in time would undoubtedly learn. Can any conduct be more dishonorable than this, and yet there are men within our ranks who do this, and consider themselves honorable men! In comparison with such the midnight assassin is more honorable, for he, an enemy, stealthily seeks your life at some risk of his own, whilst this one secretly stabs your reputation in the back, whilst professing to be your friend.

It is not alone in the consulting room that much harm is often done to the physician in attendance, but it is by visiting his patients in his absence, and upon the statements of the family alone, expressing an opinion of the treatment and intimating that a different course should be adopted; that the attending physician had evidently mistaken the case; and by such insinuations inducing a dismissal of their regular attendant, and the employment of this serpent in disguise. Have none of you ever heard of instances where creatures like this have crept in like a thief in the dark, and by lying expressions of sympathy succeeded in undermining the

confidence reposed in an honorable man and getting themselves installed in his place.

'Tis not very unusual to be called upon to visit a patient in the absence of the attending physician, when the friends have become very anxious as to the result, with the request that you should see the patient and say what you think of him, and if you think you can cure him they would like to have you take the charge, but if you think you can do no good, they will make no change. I have frequently had such calls, and I doubt not others have. But what would you think of the man who should yield to such a request? Would you not consider him unworthy to associate with honorable men? Would you not despise him and rightfully refuse to recognize him? And yet I have known such men, and I doubt not you have, and they consider themselves *honorable* men. Never, under any circumstances, yield to such solicitations; and if by chance, or by the design of friends, you should find yourself in such a family, when you have learned that another physician is in regular attendance, respectfully, but decidedly refuse to see or examine the patient; and should the family express a desire to change their physician, and have you take the charge, advise a consultation, and should that be declined, insist upon the regular physician being notified and formally discharged before you receive the patient.

Or yet again, have you not heard of instances where a hasty opinion has been expressed in regard to the treatment of some case of fracture or other injury, without the slightest knowledge of the circumstances attending the injury or even the character of the injury itself, except so far as it may appear months or even years after it was received, by reason of which opinion the reputation of the attending physician has been seriously injured, and he possibly put to great expense to defend himself in a suit for malpractice? Sometimes such an opinion is expressed carelessly, thoughtless of the injury which it may induce; but in too many instances, I fear, it is with the desire to crush a rival surgeon. Scarcely ever would a suit for malpractice occur were it not for such wolves in sheep's clothing that are too often found within our fold. We cannot, Fellows, be too careful in withholding our opinion in such cases until we have all the facts of the case, and have heard the report of the injury and treatment from the surgeon in charge.

While I would not shield the blunders of an ignorant pretender, I would not volunteer as a prosecutor.

I have thus referred to branches in our code of ethics in so far as it relates to our patients and our brothers in the profession, but there are duties which we owe to the profession itself, and by neglect of which we greatly impair its standing before the community. Ours is a time-honored profession, its origin dates from the earliest history of our race, and upon its rolls of honor are the noblest, the purest, and the most self-sacrificing men the world has ever known, and the earnest desires and the best efforts of these men have been to elevate the standard of their beloved profession, and to dignify it in the eyes of the world; to eliminate from it all that was the fruit of ignorance and superstition and to place it upon the broad plain of truth and honesty. Have all of us, Fellows, done our best to hold aloft our standard, unsullied and pure in all its folds, before the world? But rather have we not allowed it to be dragged in the mire of deceit, and empiricism; and disgraced it by resorting to the tricks and arts of the charlatan? It behooves us to frown upon all means which tend to lower the dignity of our profession, and to place it on a par with the ignorant manufacturer and vender of patent medicines. The title of doctor in these later days carries but little honor with it, therefore every true physician should so live and act before the world as to make manifest the difference between the physician and charlatan, and under no circumstances should he resort to the trick of magnifying himself by puffs in the secular press. I consider it derogatory even to advertise in the newspapers as attending to special diseases, or as having performed important operations, or in any way calling particular attention to oneself; a simple card in the papers, announcing name and residence, is all that I should consider proper. I cannot condemn in too strong language, as contrary to the letter and spirit of our code of ethics, the habit, which is too common, of endorsing the various proprietary medicines. 'Tis scandalous to see the names of so many of our noted physicians attached to certificates eulogizing in the strongest language some mineral water, elixir, or other special preparation of the host of chemists and apothecaries, of which every city can boast. The advertising journals of many of these houses are full of such certificates, and these journals are sent free to all the physicians in the land, accom-

panied with a "physicians' specimen" vial of the various compounds there recommended. Now this is all wrong, for it tends to destroy investigation, and leads to a thoughtless routine practice; for trusting to the reputation of the endorsers there is a strong temptation to prescribe the preparation, and save ourselves the thought and labor of writing a prescription, or compounding the medicine which one would require. Seeing their advertisements, and noticing the names of the endorsers, is it strange that the people procure the medicine without asking the advice of their family physician? We have a pharmacopœia, prepared with great care by such gentlemen of our profession as are thought best fitted for the work, and every ten years they revise the whole ground, and as a result of their labors we have a work replete with information culled from the experience of the medical world for the previous interval. 'Tis true that some of the popular preparations are valuable, and may properly be used, but as a general rule their use should be discouraged, as we consider it contrary to the philanthopic spirit of our profession to keep secret any medical discovery, or to patent any surgical instrument, but should rather do our utmost to make their value known. So should we decline to use or endorse all preparations, or instruments, however useful they might be, when the mode of preparation or their component parts are kept secret, or covered by letters patent. But this is not all, we have instances where members of our society, in regular standing, not only use and recommend these several compounds, but advertise themselves as agents for their sale. I also think it derogatory to the character of a physician to be interested in an apothecary shop, that is, as all such establishments are now conducted, for he is obliged to meet the demands of the public, to keep upon his shelves the hundred and one varieties of quack medicines, and to give them out to all who may ask for them, thereby encouraging the sale of these villainous nostrums, and thereby degrading his own profession, by thus aiding in disseminating falsehood; no true physician will have anything to do with such a fraudulent business, for he cannot do it without casting behind him his own self-respect, and his reputation for honesty. I would call upon all who may have thus thoughtlessly sinned, to repent and purge themselves of the evils which they are committing, by removing from their shelves all but legitimate medicines; 'tis only by

so doing that they should have any right or claim to fellowship with honorable men.

Let me beg of you, Fellows, for the honor of our profession, to eschew everything that has the flavor of quackery about it, whether it is in manner, word, or deed. True merit is modest and retiring, whilst ignorance and presumption is bold and forward; the one, like the polar star, shines serene and bright, ever guiding by its steady light to a haven of hope and trust; the other, like the flashing meteor, may, for the moment, pale by its brilliant light the soft radiance of the former, but soon, by its inherent weakness, falls to pieces and is lost to sight and memory. Quackery is born of ignorance and sired by superstition; it has lived in all ages of the world, and will live and flourish until education shall have superceded ignorance, and a pure religion shall have blotted out superstition; then, and only then, can we take pride in the title of doctor; now—

> "There is no fool, what'er the sex or grade,
> Monk, barber, Jew, comedian or old maid,
> Soap-boiler he, or pompous alchemist,
> Bath keeper, forger, or poor oculist,
> But has his name among wise doctors placed
> And thus through greed, the Healing Art disgraced."

I have thus, Fellows, briefly and without method touched upon those points in medical ethics that, in my experience, have been most frequently violated,—many times, I hope, thoughtlessly, and without evil intent; and I feel that as one of the older members, upon whose brow the snows of many winters have left their mark, it was not inappropriate in me to point out the pits and quicksands into which, without warning, our younger brother might fall, for we are a "band of brothers," my friends, all with the same object in view,—the good of our fellow-men. There should be no rivalry between us, other than the rivalry of seeing who could do the most good. Our profession grew out of the sufferings of our fellow-men, and where Death is casting his shafts with deadly aim, there should we be found shoulder to shoulder, fearless of our own danger, and ever ready to assist each other in resisting the onslaughts of our common enemy with such weapons as a

long experience in resisting him has proved most successful; but—

"Alas! no herb in any garden grows
That can avert grim Death's unerring throws.
Were doctors skilled enough to undermine
Each fell disease, they'd almost be divine;
But, as all practice shows, no doctor can
Make life anew, though he may stretch its span.
Nature this power most jealously reserves,
Alone the body heals and life preserves."

THE COUNTRY DOCTOR.

BY CHAS. C. ODLIN, M. D.

Mr. President and Gentlemen :

Standing here today, as one selected to present a paper to this honorable society, I feel that I need very much that which I do not possess, a knowledge of the rhetorical part of my profession. For days I have urgently implored Thought to come to my assistance, but the fleet-footed fellow, usually so swift to hasten at the call of those needing his help, and so ready to pour into their laps his wealth of rhetoric, has paid no attention to my frantic appeals, but has stood aloof, with his treasures of similes and comparisons, and illustrations, tucked under his arm, in plain sight, but just out of reach, as if to mock my distress, and as he winks at me maliciously, he says, " It's of no use, I am not going to help you out of this ; give them a few commonplace ideas on that entirely *new* subject, ' The Country Doctor,' and get out of it the best you can ;" and so, gentlemen, left to my own resources, I propose to say something about that honored, I trust, and, at the present time, very common member of the great mass which composes the community of this mundane sphere—the " Country Doctor."

Two thirds of us assembled here today, from the cities and the villages of our grand old Granite State, the state whose eternal hills have been the scene of the devoted life labors of so many eminent men in our noble profession, are, I presume, men who tread the bark-mill round of the " country doctor," and we are all marked men. While the city physician, seeming, as Dr. Johnson says, to be " the mere plaything of fortune," is known throughout a comparatively small circle, it is entirely different with those men who are stationed upon the outposts. Hardly a man, woman, or child, but knows the " doctor." His were the hands that held them up when sinking in the slimy waters of disease. His were the cheery, sympathizing words which banished dark despair, and brought hope, bright with her halo of peace and blessing,

back again; even the tramp, tramp, of his proverbially fiery steed, and the rattle of his old gig wheels has brought comfort to them, and changed their feverish expectancy to a blissful calm; and so he is a marked man, seen, known, and criticized of all men. Criticized by all for the people among whom he lives, in whose joys, and anxieties, and sorrows, he figures so largely,—people whose lives are spent in the urgent task of wresting from mother earth so much of her bounteous store as shall prevent the dissolution of the copartnership existing between their sturdy bodies and that mysterious something we call the soul, are an intelligent people,—capable of forming opinions which will bear the test of scrutiny and investigation. Before such a people, the country doctor stands, and they take heed to his ways, and he is not past finding out. Let him not think that he can shirk this or that responsibility. Let him not think that this or that subterfuge will save him. Let him not think that his shortcomings will escape the lynx-eyed vigilance of those whose lives depend upon his care.

What "manner of man" then must we expect the country doctor to be? In the great cities the physician has every opportunity to perfect himself in the several branches of his profession. The great hospitals stretch out their hands in welcome to him. They spread open their beds that he may gaze upon the monster, disease, who stalks so mercilessly through our land, in all the varied shapes he so easily takes upon himself. The medical libraries lay bare their souls for his dissection. The public charities give unreservedly their treasures for his mental sustenance. We surely have a right to expect that he will be a strong, self-reliant man. But on the other hand the country doctor, jogging along day after day, day after day, over miles and miles of wooded road or rocky hill-top, with the regularity and almost the monotony of the poor, old, worn out nag that goes constantly up, up the tread-mill way, his hospital advantages only such as the isolated farm houses afford him; his library, in too many cases, I fear, composed only of Druitt's Surgery, Wood's Practice, and Meigs' Obstetrics; his great public charities only such charities as come out of his own meagre pocket; what manner of man can we expect him to be!

In the first place, entrusted as he is with everything held most dear by his fellow men, admitted in the families of his patrons to an intimacy and familiarity accorded to no other person, we

have a right to expect him to be a man whose moral character shall be above reproach. Like Cæsar's wife, he ought to be above suspicion, and I cannot help saying here, and it gives me great pleasure to be able to say it, that while hundreds of lives are daily being stranded in the tumultuous surf of moral turpitude, hundreds of souls dashed to pieces on the jagged rocks of betrayed trust, rarely, very rarely, does the family physician appear with his false lights, and his deceptive, alluring beacons, as the wrecker upon the shore.

In spite of the lack of advantages which his more fortunate brother has, the country doctor is, and certainly has need to be, a strong, self-contained, self-reliant man. Summoned at midnight, it may be, to the bedside of some sufferer whose stertorous breathing, heavy pulse, injected eye-balls, and clenched teeth, present a train of symptoms which indicates that what is done for his relief, if done at all, must be quickly done ; anxious eyes looking imploringly into his ; eager voices, whose every tone is a supplication to him for help ; the knowledge that alone, with no possibility of assistance, he stands, the only barrier between disease and death, all, all conspire to make him feel, if he never felt before, that he has need to be a self-reliant man, and if he is such a man he will not hesitate, in spite of the fact that the lost art of surgery lies under the ban of public opinion, to plunge the glittering steel into the swollen vein, and lead those distressed ones to feel that his coming is a benediction, that his presence is like the golden sunshine after the long storm has passed away. The country doctor should be a firm man. The strongest man, under the influence of disease, becomes like the toddling child. He is full of whims and vagaries, and they often take such hold of his enfeebled mind, that like the " old man of the sea," they cannot be shaken off. The firmness of the physician must be a restraining power. I do not mean that all the sick man's fancies must be combatted, but they must be controlled ; the physician yielding, as yields the graceful flower-stalk to the passing breeze, when yielding is no harm, or standing like the solid rock against the tempest, when resistance is a necessity. Firmness, combined with strong moral principle, is indeed one of his most necessary attributes, for in the present state of society he will have dire need ot it. Woman, so wonderously fashioned by her Creator, is born with an instinctive desire for offspring. It is an innate

essence of her being. I can imagine no more intense happiness than the thrill of delight which must fire the soul of the wedded wife, when she feels that she is about to fulfill the most glorious purposes of her being. The poet Milton, a profound scholar, a master of the moral sciences, an acute philosopher, has placed these words in the mouth of Eve. As she awakes to a consciousness of life, she tells Adam that she heard a voice, saying:

> **"But follow me**
> **And I will lead thee where no shadow stays**
> **Thy coming, and thy soft embraces: he**
> **Whose image thou art, him thou shalt enjoy,**
> **Inseparably thine; to him, thou shalt bear**
> **Multitudes like thyself, and thence be**
> **Called mother of human race."**

A promise which filled her mind with the liveliest emotions of happiness; a promise which has come down through all these long centuries of time, like a benison, to all her daughters; but, alas for the frail human nature which mother Eve transmitted to all her offspring, the condition which so ennobles and dignifies the wedded wife, comes not to her alone, and coming not to her it brings but disgrace and degredation, a disgrace and degredation so deep, that it seeks relief in the most desperate and dangerous remedies. Can a physician, himself a man, endowed with the creative power, rejoicing in the result of that sublime gift, be so lost to a sense of his own dignity and duty that he will consent to destroy that which is made in his own image?

Is it possible that he will deliberately place himself at the mercy of an accusing conscience, which, day after day and year after year, as time rolls back the fleeting hours, will constantly remind him that he is that most pitable of human beings, a self-degraded man. I would gladly say it cannot be, but the blotted pages of the pondrous volumes containing the records of our temples of justice, tell me that without that firmness and moral principle, so necessary to the true physician, it may be possible.

It hardly seems necessary that I should say that the physician should be a temperate man. With responsibilities so great, with human life in the balance, that man is indeed culpable who will allow his perceptive faculties to be clouded by the abuse of stimulants. Now, gentlemen, I am not going to commence a temper-

ance lecture by saying that "pure alcohol, although a product of highly nutritious substances, is a mere poison, a deadly poison, the mortal foe of life in all its forms, both animal and vegetable," as is the usual style of most temperance lecturers; but in common with nearly all my professional brethren, who, by the perhaps questionable kindness of the committee on the preparation of papers, are afforded a chance, I too feel like embracing this opportunity of saying a few words about alcohol. Perhaps alcohol is a poison. Morphine is also a poison; but opium, from which it comes, is not the mortal foe of life in all its forms. We know full well that opium is at times the connecting link between our etherial souls and their clay-fashioned tenements. Chlorine is a poison; yet chloride of sodium is used with impunity and positive benefit. Theine and caffeine are deadly poisons; but in the form of good old Rio and best Bohea, we manage to imbibe them without great danger to our personal safety. Pure alcohol may be a poison; but it seems to me perfectly patent that many of the beverages into the composition of which it enters are poisons, just as salt, tea and coffee are poisons. I know that I am about to take perhaps dangerous ground. I know that in years past, men, eminent men in their profession, in comparison with whose eloquent utterances my feeble words are "as moonlight unto sunlight, as water unto wine," have stood where I stand today, and have condemned in unmeasured terms the use of alcohol in any form or amount. They say that alcohol is not a food, and to prove the assertion they tell us that it cannot be chemically transformed in the body, that as soon as it is taken the whole eliminatory system—the lungs, the skin, and the kidneys—set themselves to work to expel it, and out it comes, just as it went in, unchanged and unchangeable. So it is, too, with water. Just so soon as it is taken, the lungs, the skin and the kidneys go to work to expel it, and out it comes, water, good honest water still. But for all that, it is a very important element of nutrition. The scholarly Liebig classifies alcohol with sugar, starch and fats. All these are certainly foods, and if so, why not alcohol also? To prove that it is a food I might cite many examples. Perhaps one of the most remarkable is the case of a lady patient of Dr. Inman's, cited by Dr. Anstie. "This lady had two large and healthy children in succession, whom she successfully nursed. On each occasion she became much ex-

hausted, the appetite wholly failed, and she was compelled to live solely on bitter ale, and brandy and water. On this regimen she kept up her good looks, her activity, and her nursing, and went on in this way for about twelve months; the nervous system was by this time thoroughly exhausted, yet there was no emaciation, nor was there entire prostration of muscular power." I might multiply examples, but there is no need. My own experience during the last ten years in prescribing alcohol in low typhoid conditions, my intense pleasure as I have watched it pass its strong arm around the shattered nervous system, place its burly shoulder under the enfeebled heart, with its powerful grasp draw reason to her seat again, has led me to feel that in it we have a potent food, a food which, in the hands of the intelligent country doctor, sustains and nourishes the frail bodies of his patients when no other food will and no other food can do so. Shall the physician himself ever resort to it, personally? That is a most important question. I believe that there are times when, his nervous system exhausted by anxiety, his body weary and worn by his interminable pilgrimage, he may with benefit to himself and those whom he serves; but let him never cease to remember that he, of all professional men, stands most in danger; that it is but a step from temperance to drunkenness and consequent ruin; and that the inspired writer has said, "Wine is a mocker and strong drink is raging, and whosoever is deçeived thereby is not wise."

The country doctor should be a courteous man. Delicacy in the treatment of the sick is a duty, and courtesy toward all a permanent duty. It is related of Nelaton, that having performed a remarkable surgical operation, by means of which the life of a boy was saved, the mother waited upon him and requested him to accept a small tribute of her regard and gratitude, at the same time presenting a book in costly binding. Nelaton brusquely said, "I care very little for books, madam; my fee is five hundred francs." The lady opened the book, removed one of two notes, each for five hundred francs, gave it to him, replaced the other and carried it home with her.

Today the coarseness and brusqueness of the old time surgeon finds no place, and the steel is wielded as skilfully in the hands of those whose manners are not the manners of the race course, and

the healing medicine is prepared as deftly by those whose language is not the language of the bar-room.

The country doctor should be a true man. Possessed of secrets through his professional relations, secrets affecting whole families perhaps,—secrets which are in his possession only through the direst necessity,—it behooves him, indeed, never to betray the trust reposed in him. I believe the moral obligation rests upon our courts to instruct physcians upon the witness stand, that they need not betray any professional secret, just as strongly as it rests upon them to instruct the criminal that he need not testify against himself.

I might enumerate all the cardinal virtues and well say that the true country physician should possess them all, but I should only weary your patience. In closing, I will speak of only one more, that charity for all mankind *and* our brother physician, without which we are all "as sounding brass and the tinkling cymbal."

May we all so strive to exercise these virtues, that at length, when the last "call" which shall ever greet our mortal ears awaits us, we may hear the welcome words, "Inasmuch as ye have done it unto one of these, the least of my brethren, ye have done it unto me. Enter thou into the joy of thy Lord."

DIFFERENTIAL DIAGNOSIS OF MAMMARY TUMORS.

BY D. S. ADAMS, M. D.

Erichsen says: "The study of the various tumors of the breast, more especially in a diagnostic point of view, is of the first importance to the practical surgeon: for though it might be supposed that it would be easy, if not to recognize the minuter shades of pathological difference between morbid growths so superficially situated as those of the mammary gland, at all events to diagnose the malignant from the non-malignant affections of this organ; yet in practice nothing is more difficult in many cases; and it not only requires great experience, but also an intimate acquaintance with the special course and symptoms of each particular disease, to come to a correct conclusion as to its nature. Even with all the light which experience and a careful examination of the character of the tumor may throw upon the disease, it will be impossible for the surgeon to avoid occasional errors in diagnosis."

I think every physician who has had any considerable experience with these cases, fully realizes the truthfulness and force of these words, for nothing is more common than to see physicians pronounce almost every form of mammary tumor malignant and advise an operation; and it is altogether too common for a physician to examine a breast that has been removed, only to find it containing a simple adenoid tumor. I do not pretend to say that these mistakes can always be avoided, but I do claim that there is no excuse for any physician who removes a breast before he has exhausted every means at his command, to establish the true character of the tumor with which he is dealing. And in establishing these characters let us not be deceived by any one or two symptoms, for on closer analysis we will find that there is no one symptom characteristic of any form of tumor; notwithstanding, there have been certain symptoms laid down from time immem-

orial that have been pretty generally relied upon as characteristic; but when taken by themselves they are only too well calculated to mislead.

Again, the nomenclature of mammary tumors has been terribly mixed for years, and no man knows what another man means when he says adenoma or sarcoma, unless he defines it anatomically; but we are gradually working out of this dilemma, and if each one writing upon the subject will take pains to define his terms, it will be but a short time before our classification will be perfect, and each term will have a definite pathological meaning. Without reviewing the many names applied by different authors to the different tumors I will proceed to give, not a full classification, but the tumors with which I propose to deal, together with my understanding of the anatomy of each, after which I will arrange their symptoms in a tabular form for ready reference; but in order to be properly understood it will be necessary to briefly call attention to the various tissues of which the mammary gland is composed, and the embryonic layers from which the tumors spring.

The mammary gland is surrounded by a thick layer of adipose tissue, held in position by reticulated connective tissue, which penetrates into the interior, subdividing it into lobes; but in the ultimate gland structure and in the nipple and areola there is no fatty substance. In this tissue, deep-seated at the inner and outer borders, are lymphatic glands; the inner opening into the anterior mediastinal glands, and the outer communicating with the axillary glands. These structures are derived from the middle germinal layer. The ultimate gland structure consists of small vesicles, which are united to form lobules which are grouped to form lobes, each of which has a duct leading to the nipple. These glands are formed by the vesicular endings of branched tubes; and they, together with the ducts, are formed of connective tissue lined with a single layer of epithelium, which is greatly increased during lactation, thrown off into the gland, and undergoing fatty degeneration forms a part of the milk.

They are derived from the external germinal layer. Surrounding the terminal ducts is a spindle-celled tissue, which separates the limiting membrane from the stroma. This, I believe, is a mongrel tissue formed between the two germinal layers; and from this I think the spindle-celled sarcomata originate. The nipple is com-

posed of the ducts, united by connective tissue with blood vessels, lymphatics and nerves. Upon the surface and beneath the cuticle is a layer of pigment cells. The connective tissue contains a large quantity of contractile fibre, which, when excited to contract, produces a rigidity of the whole organ. Within the areola are situated hair follicles and sebaceous glands; hence sebaceous tumors are occasionally developed in this region. The second, third, fourth, and fifth intercostal branches of the internal mammary artery usually convey blood to the internal segment of the breast; a branch from the axillary usually supplies the upper and outer portion, and the inferior and lateral regions receive a few branches from the intercostal which pass with the veins through the middle intercostal foramina. The lobules have a distinct system of capillaries of their own, forming a net-work around the alveoli, which are comparatively inactive during the resting period of the breast. The veins usually accompany the arteries and terminate in the internal mammary and axillary trunks. A peculiar arrangement of the areolar veins has received the name *circulus venosus areolæ.* The nerves supplying the breast are as follows: "The breast and skin covering it are supplied by filaments from the anterior branches of the fourth and fifth cervical nerves. Filaments from the posterior branches of the same nerves join with others from the superior dorsal nerves. Filaments from the middle and anterior intercostal branches of the anterior division of the second, third, fourth and fifth nerves of the dorsal plexus supply the breast and skin over it chiefly. A minute examination demonstrates the association between the second intercostal and filaments supplying the skin of the inside of the arm and axilla; also, the same parts and the skin about the shoulder from the third, and the skin about the scapula from the fourth and fifth (Holmes)." These nerve communications explain the extensive pain in hyperæsthesia of the breast.

I shall be obliged to deal with three conditions of the breast that are not, strictly speaking, tumors, on account of their symptoms so closely resembling those of tumors: first, galactocele; second, congestion with milk; third, chronic encysted abcess: tumors; fourth, adenoma; fifth, adenoid cyst; sixth, soft carcinoma; seventh, hard carcinoma; eighth, sarcoma; ninth, cysto-sarcoma: and the rarer forms; tenth, fibroma; eleventh, lipoma; twelfth, neuroma; thirteenth, hydatid cyst; fourteenth,

enchondroma; fifteenth, osteoma. By *galactocele*, I understand an obstruction of the duct, whereby there is an accumulation of milk, and dilatation or rupture of the gland or duct, which forms an encysted milk tumor in one of the lobes of the breast. *Congestion with milk* is caused by the absence of the more fluid portion of the milk, on account of which the solid portion accumulates in the ducts and glands, producing a lobulated tumor of stony hardness. *Chronic Encysted Abscess* is the result of a slow chronic inflammation, which results in the formation of pus, which is surrounded by a thick, dense fibrous wall. This frequently reaches a certain size, then remains stationary for months. *Adenoma* is always in connection with secreting glands, and is the result of increased growth of the epithelium lining them, the layer of which is crowded inward by a new layer forming under it, and failing to undergo the fatty metamorphosis, fills up and dilates the gland, by which it may form new gland structure in some cases.

The epithelial growth is always confined to the inner portion of the gland, and does not infect the tissue surrounding it.

Adenoid Cyst is the result of the same process as above, occurring in one terminal gland, or as the result of the breaking down of the intervening tissue beteen several glands, the tissue softening to form a mucous mass. *Soft Carcinoma* is the result of an increased growth of the epithelium; but instead of being thrown off into the gland, it infects the leucocytes as they approach the epithelium through the lymphatic lacunæ, causing them to develop into epithelium, thus blocking up the immigration of the leucocytes and filling the surrounding tissue with epithelial growth. *Hard Carcinoma* is the result of the same process, with an increased growth of the fibrous tissue. The cells of both these, therefore, lie in lymphatic lacunæ,—an abundance of cells in the soft, a limited number in the hard. Sarcoma: The spindle-celled, in my opinion, originates in connection with the spindle-celled tissue which separates the limiting membrane of the glands from the stroma. The round-celled has its origin in connection with the lymphatic spaces in the connective tissue by an increased growth of the endothelium lining them, together with an increased growth of the connective tissue. *Cysto-sarcoma* is the same process, only the endothelial growth takes place in one lymphatic space, dilating it, or in several spaces breaking down the intervening tissue between them; the endothelium soft-

ening in the former into a serous fluid; in the latter, into a cloudy serous fluid; and if a gland be implicated in the latter, into a muco serous fluid, in which case the tumor may possess both round and spindle-celled tissue. The first of these is the simple sero-cyst of some authors. The *Fibroma* is a simple increase of the connective tissue, without the infiltrating cells, confined to a limited portion of the breast, and is exceedingly rare. The *Lipoma* is an encysted, fatty tumor, arising in connection with the adipose tissue of the breast. The *Neuroma* arises in connection with the nerve tissue, producing a bulbous enlargement of the nerve, and is composed of newly-formed nerve fiber and ganglionic cells. The *Enchondroma* and *Osteoma* probably take their origin in connection with the connective tissue, or as a degeneration of some of the other tumors. But little is known in reference to their origin in this situation, on account of their rarity. The *Hydatid Cyst* explains itself, and presents the ordinary characters of a deep-seated cyst.

Can one form of tumors begin in the breast, and after a time change or take another form? I think this sometimes occurs; for instance, an adenoma may be confined for months to the inner portion of the gland, when from some renewed action it blocks up the immigrating leucocytes and infects the surrounding tissue and results in a *Soft Carcinoma*. Also, the *Sarcoma* may form independent of the gland and later involve the gland so as to produce a mixed tumor; or, most any of the hard tumors may undergo mucous or serous degeneration, forming a cyst, or cartilaginous or osseous, forming an *Enchondroma* or *Osteoma*. These tumors are auto-inoculable, just in proportion as their epithelium is taken up by the lymphatics; consequently, the soft carcinoma is the most dangerous, the hard next, and the spindle-celled sarcoma next, provided they all remain in the system the same length of time. Broken down epithelium is more poisonous when taken into the blood than any other tissue in the system. I do not consider the round-celled sarcoma, nor any of the other tumors above enumerated (except the three just mentioned) as auto-inoculable, unless the glands and epithelial tissue become involved in them.

The diagnosis of these various tumors is not an easy matter, for it is very evident that if fifteen tumors originate within so small a compass as the breast, inflaming the same tissues, and pressing upon the same nerves, that we must have a great many symptoms

in common. The adipose tissue is a great hindrance to our physical examination; for the most important tumors are usually deep-seated, and the thick layer of fat so masks them, in some cases, that it is utterly impossible to tell whether they are smooth, hard, nodulated, elastic, single or multiple. Then the more characteristic symptoms do not appear till late in the disease; and the surgeon that waits for infection of the surrounding glands, for the retraction of the nipple with the implication of the skin over the breast, or for the adhesion of the mass to the subjacent tissues, is only allowing his patient to slip beyond his reach into the stage of general infection, for which there is no help. But there are some points that aid us very much in our diagnosis, especially in distinguishing between carcinomata and other tumors. First among these, probably, is age, for about ninety-five per cent. of all carcinomata of the breast begin after the age of thirty; so, if the patient be under that age, the chances are largely against carcinoma. The majority of the cases of sarcoma, and nearly all the fibromata, begin after the age of thirty; while about sixty-two per cent. of the cases of adenoma begin under the age of thirty; but, in connection with this, we must bear in mind that years and days do not truly represent the age of the patient as it should be considered here; for one woman may be older at twenty-five than another is at thirty-five, therefore more liable to have carcinoma; consequently the question should always be asked, in our own mind, "is this woman prematurely old, or postmaturely young?" Next was this bunch developed during the passive state of the breast, or during its functional activity? If developed during its functional activity, it is probably either galactocele, congestion with milk, or chronic encysted abcess, although the latter may not make its appearance for months after a miscarriage or delivery. It is only in cases of abortion, when the woman tries to conceal the fact, that we are very apt to be misled on these diseases; but general activity of the local circulation, the fulness of the breast, the enlargement of its veins and darkening of the areola, in connection with more or less activity of the other breast, will usually enable us to decide. If developed during the passive state of the breast, did it occur as the result of active inflammation, or has the breast apparently been free from inflammation? If the result of active inflammation the chances are that it is abscess, or benign tumor; for the more

Galactocele.	*Congestion with Milk*	*Chronic Enc't Abc's*	*Adenoma.*
1. During the child-bearing period, and result of pregnacy.	1. During the child-bearing period, and the result of pregnacy.	1. During the child-bearing period usually, and most commonly the result of pregnacy.	1. Majority of cases under the age of 30.
2. No pain.	2. Some dull pain sometimes; not common.	2. No pain.	2. If painful, pain dull and most severe at catamenial period.
3. System not disturbed.	3. System considerably disturbed.	3. System not disturbed.	3. System not much disturbed.
4. Breast considerably enlarged.	4. Breast very much enlarged.	4. Breast not much enlarged.	4. Breast slightly enlarged.
5. Local circulation active in both breasts	5. Local circulation active in both breasts	5. Local circulation some increased in both breasts.	5. Local circulation some increased in the breast affected.
6. Tumor quite a size, but if it has been in the breast long it is not as large as it was on account of the more fluid portion being absorbed; but harder.	6. Tumor large and lobulated.	6. Usually small and irregular in shape.	6. Tumor small and nodulated.
7. May give an elastic feel, or fluctuation, or may be hard.	7. Stony hard.	7. May give an elastic feel, otherwise hard.	7. Moderately hard
8. Single.	8. Single.	8. Single.	8. May be single or multiple.
9. Nipple may or may not be connected with the tumor. If a simple dilation has taken place, it is connected; if a rupture, it may not be.	9. Nipple always connected with tumor.	9. Nipple may or may not be connected with the tumor; usually is.	9. Nipple always connected with tumor
10. Freely movable	10. Not freely movable.	10. Not freely movable.	10. Freely movable.
11. Skin disturbed over it.	11. Skin disturbed over it.	11. More or less œdema of the areola.	11. Skin normal, unless the tumor has reached considerable size, when it becomes stretched over the tumor.
12. Growth rapid; tumor fills every time the child nurses, then gradually subsides.	12. Growth rapid to a certain size, then stationary.	12. Growth slow.	12. Growth slow under the age of 30; after that, rapid.
13. Nipple never retracted.	13. Nipple usually retracted or embeded in the breast.	13. Nipple usually flattened or retracted	13. Nipple projects.
14. Surrounding glands never implicated.	14. Surrounding glands never implicated; but may be some swollen.	14. Surrounding glands may be some swollen.	14. Surrounding glands never implicated.
15. Superficial veins enlarged in both the breasts.	15. Superficial veins enlarged in both breasts.	15. Superficial veins may or may not be enlarged.	15. Superficial veins usually enlarged.
16. Puncture.—Cheesy mass or cream	16. Puncture.—Cheesy mass or cream	16. Puncture.—Pus	16. Puncture.—Solid.
17. Microscope.—Milk or fat globules, with more or less epithelial cells undergoing fatty degeneration.	17. Microscope.—The same as in galactocele.	17. Microscope.—Pus corpuscles.	17. Microscope.—Epithelial cells if taken from the interior of the acini; otherwise, may get connective tissue.

Soft Carcinoma.	*Hard Carcinoma.*	*Sarcoma.*	*Primary Cyst.*
1. Very rare under the age of 30.	1. Very rare under the age of 30.	1. Majority in patients over thirty.	1. At any age above puberty. Majority under 30.
2. May or may not be painful. Is not usually painful till skin is implicated; then pain severe and cutting, running to the shoulder and down the arm.	2. Usually not painful till skin is implicated; then pain severe and cutting, or stabbing, running up to the shoulder and down the arm.	2. May or may not be painful.	2. Not painful usually.
3. System considerably disturbed.	3. System not much disturbed.	3. System usually disturbed some.	3. System not disturbed.
4. Breast some enlarged, and enlarges rapidly.	4. Breast normal at first.	4. Breast slightly enlarged.	4. Breast appears normal.
5. Local circulation some increased in the breast affected.	5. Local circulation apparently normal.	5. Local circulation slightly increased in breast affected.	5. Local circulation normal.
6. Tumor quite a size, irregular, and not well defined.	6. Tumor small and smooth or nodulated.	6. Tumor quite a size, and irregular.	6. Tumor small and may be nodulated.
7. Usually soft, with a doughy feel.	7. Tumor hard.	7. Tumor a little soft.	7. May give an elastic feel; otherwise, hard, and may be finely nodulated.
8. Single, but lobulated feel may give the feel of a multiple tumor; but you cannot roll one on the other.	8. Single.	8. Usually single.	8. Frequently multiple; and when so, can readily roll one tumor on the other.
9. Nipple always connected with tumor.	9. Nipple always connected with tumor.	9. Nipple may or may not be connected with tumor.	9. Nipple may or may not be connected with tumor.
10. Freely movable at first. Soon adherent.	10. Freely movable at first.	10. Not freely movable.	10. But little movable when deep seated.
11. Skin normal at first, but becomes implicated early.	11. Skin normal till late in disease.	11. Skin normal.	11. Skin normal.
12. Growth rapid.	12. Growth slow.	12. Growth usually rapid.	12. Growth slow, and may remain small for years, then grow very rapidly. May have a vegetation spring from its wall forming the compound cyst.
13. Nipple projects at first, but soon becomes retracted.	13. Nipple normal at first; may or may not be retracted later.	13. Nipple may or may not be retracted.	13. Nipple may or may not be retracted; is not usually.
14. Surrounding glands soon implicated as the growth is rapid.	14. Surrounding glands not implicated till late in disease.	14. Surrounding glands never implicated.	14. Surrounding glands never implicated.
15. Superficial veins enlarged early.	15. Superficial veins not enlarged till late in disease.	15. Superficial veins may or may not be enlarged.	15. Superficial veins may or may not be enlarged.
16. Puncture.—Tumor soft, but no discharge.	16. Puncture.—Solid.	16. Puncture.—Solid.	16. Puncture.-Fluid
17. Microscope.—Epithelial cells arranged in alveoli, with no connective tissue separating the cells. The alveoli separated by well marked connective tissue bundles.	17. Microscope.—The same as soft, except more connective tissue and less cells. The arrangement of cells the same. The cells may break down so as to leave small granules in the alveoli. In this case the epithelial character is lost.	17. Microscope.—Spindle-shaped cells are characteristic. If it be round-celled, the cells resemble epithelial cells, but are not so distinctly arranged in alveoli, and have connective tissue running all through between the cells.	17. Microscope.—If primary, the walls are simple connective tissue. If secondary, the walls same character as tumor from which it was formed.

active forms of inflammation rarely result in the malignant tumor. Again, is it a solid tumor, or a cyst? In some cases we are able to decide this by the elastic feel of the tumor; but more commonly, when the tumor is deep-seated, we are unable to detect any elastic feel; but fortunately puncture never fails to decide, and when punctured with the harpoon, if it proves solid you can remove a piece for the microscope; so I think it always ought to be used when there is any doubt.

In the physical examination of the breast we are often aided very much by placing the patient in a recumbent position, with the breast free to tip one way or the other, or settle back onto the chest; for frequently it will divide over the tumor, leaving that more prominent and nearer the surface than while standing. Is the tumor single or multiple? When multiple, we can sometimes roll one tumor on the other. If multiple, the worst it can be is sarcoma, for carcinoma is never double. Is the nipple attached to the tumor, or free? By pressing the breast forward over the tumor, and with the fingers of one hand pressing the tumor back against the chest, while we pull upon the nipple with the other hand, we are frequently able to decide by the fixed condition of the nipple. If it be attached to the tumor, the tumor is in connection with the glands or ducts; if free, it cannot be in connection with them on account of their close anatomical connection with the nipple. Is there any discharge from the nipple, or can any be pressed out? If there can be, we know it contains fluid within the glands or ducts. Is it painful or free from pain? Here we never should ask a leading question, but let the patient describe the pain in her own language, without any of our aid. If the pain be lancinating, darting or stabbing, extending up to the shoulder and down the arm, it points strongly to hard carcinoma; but if it be free from pain it is no guarantee against carcinoma, for carcinoma may exist without pain. It is always a good plan to learn if the patient has been reading about cancer; for frequently, after reading the symptoms, she will imagine the disease and give the doctor the full list of symptoms. As proof of this, it is only necessary for us to recall the many diseases through which we passed while reading medicine; but the accompanying table will aid us in forming a correct diagnosis, in the earlier stages.

In the table I have classed all the cysts as one, as there is nothing to distinguish one from another except the microscopical character of its walls, and its position in reference to the glands; thus if entirely free from the glands it must be a sarcomatous cyst. Also, I have omitted fibroma, lipoma, neuroma, enchondroma, and osteoma, as they are all exceedingly rare, and the last two are frequently the result of change in some other tumor. The fibroma in its earlier stage has all the external characteristics of the hard carcinoma and can only be distinguished by the use of the microscope, and even here it is very difficult in some cases. The lipoma being entirely free from the gland and presenting the microscopical characteristics of adipose tissue, is readily distinguished. The neuroma is usually very small, and may be very painful while the surgeon is unable to find any tumor whatever. The tenderness of the nerve affected, when pressed upon, will be of some diagnostic value.

From the table we learn that retraction of the nipple is common to all tumors which implicate the glands or ducts; and is undoubtedly the result of inflammation and contraction of the connective tissue surrounding the ducts. This does not always take place, consequently retraction is more or less accidental. Hardness is a symptom common to all, except soft carcinoma and sarcoma, and it *may* occur in connection with sarcoma. All the tumors may be irregular in shape, giving a nodulated feel. Later in the disease, if it be carcinoma, the severer symptoms become intensified, so it is not difficult to determine; but our patient is beyond help, so our knowledge is of no benefit. But fortunately the harpoon and microscope enable us to determine the character of these tumors in their earlier stages and always ought to be used, and the sooner they are used the better; but my observation would tell me that they are not in common use. The use of the harpoon cannot possibly do any harm in connection with these tumors, for if it proves a benign tumor, or cyst, the inflammation following its use will frequently cure it. Where the surgeon has no harpoon a narrow bladed knife and small pair of forceps will answer the same purpose, and if local anæsthesia be used, the operation is painless. Finally, we should exhaust every means at our command to determine the position and the character of these tumors, and when we have determined the character act promptly on the decision.

REPORT ON SURGERY.

BY J. H. WHEELER, M. D.

Mr. President and Fellows :

When notified of my appointment to make the report on surgery, and asked if I would accept the same, my first impulse was to decline, not because I was unwilling to serve the society, but because I could not see how I could furnish anything of interest on this subject. Signifying these feelings to our worthy secretary, he replied that he had sometimes thought it would be a good idea to look over the records of the society, and gather up the principal items of interest that have been presented from year to year. Accepting his suggestion, I have entered upon the task, and I ask your attention to what I have deemed proper to bring before you at this time.

You are well aware that the transactions of our society were not published until the year 1854. The first article on surgery I find was in the year 1855, by William P. Stone, on fracture.

After speaking in a general way, he particularly mentions the actions of the muscles as a cause of displacement between the fractured portions of bones, especially of the lower extremities; that here the greatest thickness of the muscles is on the posterior and internal aspect of the bones; and their insertion bring into the inferior fragment, or those parts attached to it, the upper fragment almost invariably overlaps, presenting a seeming anterior projection, which disappears on replacing the lower fragment to its original position. And he deduces the practical suggestion that efforts at reduction should be made on the lower fragment, which alone is displaced. He calls attention to the fact that no one of the physical signs of fracture is constant, and that crepitation may be produced by friction of articulating surfaces in a diseased condition, and by an emphysematous condition of the soft parts. He

also mentions that fractures occurring in inebriates are dangerous, especially if complicated with delirium tremens,—from the insane attempt of such persons to free themselves from the dressings necessary to retain the fractured bones in apposition. He regards splints as only an appliance to anticipate the efforts of nature in her process of repairing such injuries; her first effort being to surround the broken bone with what is called the provisional callus, and which may not inaptly be called nature's splint.

The next article on surgery I find to have been by Dr. Geo. H. Hubbard. (1857.) He first alludes to the fact that surgery has gradually become less an art and more a science; and then proceeds to report some cases of injury to the head; to speak of the treatment of ununited fractures, and of the method of reducing dislocations of the hip joint by manipulation.

In the report for the next year, Dr. A. Smalley calls particular attention to the reduction of dislocations by manipulation; and after alluding to methods of replacement by diminishing muscular contraction, advised by distinguished surgeons abroad and in this country, he states the important fact to us, gentlemen, that to Nathan Smith, of Hanover, one of the early pillars and most distinguished members of this society, belongs the credit of reducing dislocations of the larger joints without the pulley or any other extending force. All honor to the name of him who "first taught in our own alma mater," scientifically and publicly, the principles of reducing dislocations by manipulations.

We next come to a report by the lamented W. D. Buck. (1859.) After remarking that in a community, like the communities of our state, there are no persons that practice surgery as a specialty, and that all our surgeons are general practitioners, he proceeds to some remarks on the treatment of fractures. He lays great stress on mechanical ingenuity, and quotes the remark of an eminent professor, "that a thorough knowledge of anatomy and mechanical skill was all that was necessary for the successful treatment of fractures and dislocations."

He calls attention to another important fact to us, that it was Dr. Josiah Crosby, of Manchester, that first published the use of adhesive straps in the treatment of fractures.

After this, he describes his (Dr. Buck's) method of putting up a fracture, and remarks that "if a limb is kept perfectly still there

will not necessarily be a callus," and that "a surgeon may know with what success his efforts to keep a limb straight have been attended, by the defence nature throws out to keep away motion."

He then presents some cases of his own and some that had been reported to him. I will note only one, and that of strangulated hernia, to call attention to the remark of Dr. Josiah Crosby on the importance of operating early in such cases. He says, "There is perhaps no disease of which so many persons die, over which the surgeon has so much control, as strangulated hernia. Very few persons would lose their lives by it, if the operation was performed sufficiently early. Too much fear of an operation is generally entertained by the attending physician, and sometimes great opposition is made to it by the patient and friends, all tending to delay. I think all surgeons can say, as Mr. Key did, that he had often regretted performing the operation too late, but never too early. It is very difficult, he says, to say how much time may safely be consumed in making efforts at reduction by taxis; but one thing is very certain, that severe efforts, long continued, or frequently repeated, are far worse and more dangerous than it would be to use the other common remedies,—warm bath, cold or warm local applications, ether, &c.,—and not resort to taxis at all."

Dr. Buck then describes his own method of reducing hernia. He says, "I place the patient's hips higher than his head, by raising the foot of the bedstead a foot or more; flex the thighs upon the body; then grasp the integuments and subcutaneous tissue, as deeply as possible, each side of the neck of the tumor; with the thumb and fingers of each hand, lift the integuments up and give a lateral sawing motion, try to enlarge the opening, but do not touch the tumor. I have reduced hernia by this method, when the attempt had been made, for hours, at reduction in the ordinary way."

I may here remark, that in a recent conversation with Dr. Bacon, of Biddeford, Maine, he stated that he had found, in some instances, large draughts of coffee to enable him to reduce a rupture after all other means had failed.

(1860.) The next article I find of a surgical kind, is in a letter from Dr. G. W. Garland, of Lawrence, to Dr. Wm. W. Brown, on

the treatment of wounds to secure union by first intention and a small cicatrix.

Dr. Garland recommends the securing of pressure, by means of adhesive straps, from the tissues on either side of a cicatrix. These tissues being of a firmer and more solid texture, by causing them to press against the new and tender organization, condensation and absorption of the cicatrix is sure to follow.

He would manipulate lacerated wounds gently, as long as he could make them blend, and then clean the wounds of every particle of blood, and close them with narrow adhesive straps—placing over the straps lint smeared with simple cerate, and over this a few turns of bandage, enjoining absolute rest. He places great importance in having the straps narrow, so that the globules of blood, should there be any, may easily escape.

The following year (1861), the report was by Dr. George B. Twitchell. After referring to the difficulty of obtaining replies to circulars sent out to our fellows asking their aid in preparing the report on surgery, he proceeds to give account of some very interesting cases that came under his own care,—one of a case in which a child got into its trachea a portion of a peanut, necessitating tracheatomy. Without taking time to give this case in detail, I will only mention that Dr. T. concludes from this and several other cases which have come under his observation, that an early operation is important, and delay dangerous. He mentions two points of interest in connection with this case: First, the rough breathing which was apparently confined to the trachea, and as supposed, caused by the presence of inflammation in the tube, produced by the irritation of a moving body; but which proved to be the result of the lodgment of a foreign body in the bronchi, as the roughness immediately ceased upon the removal of the nut, and not returning, although there must have been much irritation of the muceous lining of the trachea in the attempts to remove the cause of all this trouble. Second, that if we wish to excite an expulsive effort on the part of the patient, under such circumstances, we, instead of passing a probe downwards into the bronchi, should pass it upward so as to irritate the rima glottidis; particularly so, if an anæsthetic has been used, as under such circumstances all motion is involuntary. The second case referred to was one of recurring fibroid tumor of the breast, at first supposed

to be cancerous, but which after having been removed five times during the period of about eleven years, the patient all the time being in good health, was found to be of the nature mentioned. The third case was one of compound fracture of the skull, and necessitating the use of the trephine. This case is mentioned particularly by Dr. T., that he may express the opinion that when there is pressure upon the brain that pressure should be removed, regardless of its immediate effect upon the mind; for, he remarks, "we very well know that the cavity of the cranium is always full; as the brain, its vessels and membranes fill up every part of it, there is no vacant space; and if by any cause this cavity is diminished, it must be at the expense of compression of its contents, and as we know that undue pressure, though slight, continued for any length of time, will either cause absorption of the part compressed, or change in its structure, and consequent derangement of its functions; so, in cases of the brain, there can not be depression of both tables of the skull without more or less compression of this important vital organ." One must, of course, first determine if both tables are depressed.

The report for the year 1864 was by the lamented Professor A. B. Crosby, giving an account of gunshot injuries of the knee joint.

The points which he would impress are as follows, in his own language:—

1st. "That gunshot injuries of the knee joint, involving the articulating surfaces, or complicated with fracture, are inevitably followed by a destructive inflammation, an extensive suppuration, mainly in the thigh, a typhoid condition, and death.

2d. That such injuries of the knee joint require primary amputation, and the previous condition of the patient having been good, and the shock moderate, a favorable result may be assured with confidence.

3d. That secondary amputation, after suppuration has occurred, may save the life; but is much more likely to result fatally.

As an exception, he would say that a compound fracture of a patella may occur, and yet the remaining bones of the articulation be uninjured. In such instances, it is good surgery to wait.

A ball may enter the cavity of the joint, and not injure the articulating extremities. If it can be removed without inflicting fur-

ther injury, the limb may be saved; but the ball remaining a foreign body, there is no resource but the knife.

A ball may lodge, without doubt, in the reticulated structures in the articulating extremities of either bone, and the cavity of the joint not being opened, recovery may take place. If, however, the synovial membrane is ruptured, the leg will be lost.

Injuries of the knee which partake of the character of incised wounds, admit of delay."

(1866.) The report for this year was by Dr. A. H. Robinson. After some general remarks, in which he advocates strongly conservative surgery, and which he illustrates by citing several cases, he gives an interesting account of a case of the rare accident of fracture of the anatomical neck of the humerus, which occurred in his own practice. Then remarking that it is not correct to suppose an operation is best performed that is quickest performed, he speaks of the treatment of ulcers; that owing to the efforts of Scott, of Bromley, in England, and of Mr. Critchett, these sores, which have been the opprobrium of the profession, are now much more amenable to treatment. Rest in the recumbent position, appropriate constitutional treatment, depleting measures, simple water dressing during the acute and subacute stage of the ulcer, strapping with lead plaster from the toes to the knee, a roller over the adhesive straps, are sufficient to secure the cure of the most obstinate cases.

Remarking that nearly all of a surgeon's practice is non-operative, and that nearly all medical practitioners are general practitioners, he regards it as highly important that just views should be entertained of the relation which medicine bears to surgery.

In speaking of abnormal growths, he mentions that many which bear a strong resemblance to those of a malignant nature are benign, and therefore can not only be removed by operation with perfect success, but may also sometimes be carried off without resort to cutting instruments. Certain tumors of the breast, for instance, on restoration of the impaired general health will take care of themselves. He then closes this interesting report by referring to the appearance of hospital gangrene in the Depot Hospital, in the treatment of which he seems to have had remarkable success, by treating each case on its own merits, conjoined with "cleanliness, separation, and free exposure to the air."

In the year 1867, the report on surgery was supplied by an article by Professor A. B. Crosby, on septicoemia. This was a very interesting and instructive article. In it he evidently includes what is now divided into the two affections, septicoemia and pyoemia. He states that the effect of this septic poison is threefold.

"1st. It affects the blood itself, diminishing its fibrine, disintegrating its red corpuscles, and favoring coagulation. If the quantity introduced into the blood is small, elimination of the poison may occur spontaneously; but if the amount is large, the result must be disastrous.

2d. The morbid product evinces itself in its effect upon the circulation; the heart's action is depressed and weakened; the pulse is rapid and small; rapidly increasing debility supervenes, and death results from asthenia: meantime there is frequently a marked tendency to hemorrhage of a passive character.

3d. The poison may affect the solid tissues, as evinced by secondary purulent collections, mainly occurring in the substance of the viscera."

After discussing the pathology, causes and symtons of septicoemia, he speaks of the treatment, which has two prominent indications: one, to support the power of life; the other, to combat the septic influence in the blood.

The first is to be met by a free resort to diffusible stimulants, together with rich animal broths and extracts. To combat the septic influence, he would use freely the sulphites. As adjuvant, he would subdue pain and administer carb-amm, to secure fluidity of the fibrine in the blood.

The report for the year 1869 was by Dr. L. B. How. After some interesting remarks on the progress of the science and art of both medicine and surgery, he first speaks of the treatment of wounds, advocating the cleansing of them with pure water, and the careful approximating of the edges, without any applications, unless it be covering with tin-foil, or a rag greased a very little with mutton tallow, to keep it from sticking; or a wet rag, or a perfectly dry one. In regard to the treatment of carbuncle, he believes it best not to incise them. Instead of local anæsthesia with rigolene, he prefers the use of nitrous oxide as an anæsthetic for minor operations, stating that he has not seen or heard of any ill

effects from it. For the treatment of the inflammation of the mucous membranes, he advocates mild measures. In affections of the rectum he enjoins a careful exploration before making a diagnosis or advising treatment, and illustrates this position by an instructive case. He next proceeds to speak of fracture apparatus, and recommends that roller bandages should not be applied to fractured limbs; that all appliances for the treatment of fractures should be of the simplest kind; and gives a very full and clear account of the fracture bed of Dr. Buck, as modified by Professor Albert Smith. He then speaks very forcibly against the use of chloroform, when ether can be used, as an anæsthetic, citing a number of instances of premature death through its use.

Dr. M. W. Russell presented the report for the following year (1870). He calls attention to the advance made in the treatment of the diseases of the eye, particularly to that of glaucoma, by iridectomy. In regard to the treatment of abscess, he advises to let the abscess point before opening, unless the pus is bound down by periosteum, or strong fascia; or it lay near important vessels or parts, where it might do harm. He doubts if whitlow is benefitted by early incision. Carbuncle, he believes, is better treated by a palliative plan, than by crucial incision or enucleation. He speaks warmly in favor of extension, by means of a weight, in fracture of the femur. The distortion of club-foot he considers as resulting, in the great majority of instances, from paralysis of the muscles of the side of the leg from which the foot is drawn, rather than from contraction of the opposite muscles. To determine which cause exists, the patient should be anæsthetised and efforts made to bring the foot into its normal position. In œdema of the glottis, he would advise the use of a strong tinct. of iodine, two or three times its usual strength, with a little iodide of potassium, to prevent decomposition when in contact with the fluids of the throat, applied freely to the epiglottis and lips of the larynx. This treatment he considers much easier, and far less dangerous than scarification, according to the method advised by Dr. Buck, of New York.

He closes by presenting two cases, handed to him by Dr. Josiah Crosby. Dr. Crosby remarks, "In no case of the shaft of a long bone have I found serious complications so frequent as in fractures of the shaft of the ulna." The complications in these

two cases were the dislocations of the head of the radius forwards; in one case not recognized at the time of first dressing.

In the report for 1871, made by Dr. George A. Crosby, after some general remarks, he speaks of the history of the autoplastic treatment of wounds, and of the treatment of burns. He next speaks of the nature of carbuncle: that from the time of Hippocrates, the opinions have been unsatisfactory. In its treatment, it is desirable to know the state of the kidneys; and if albuminuria or diabetes is present, they should be attended to. Respecting the crucial incision, pronounced against by Mr. Paget, he says he has seen benefit from them, and never any injury. Dr. James Glover recommends turpentine ointment, on cotton-wool, locally, instead of linseed and yeast poultices; an opiate at night, quinine and iron, and nourishing diet. The ointment is applied on lint, and covered with cotton-wool. He then speaks of the use of carbolic acid; of tapping the urinary bladder, in the case of stricture; of fractured ribs in the insane; and of injury to the nerves. Under the last, he mentions some interesting cases of neuroma.

For the year 1875, the report was made by Dr. C. P. Gage, in which he presented a number of interesting cases that had come under his care. In the first, he notes the effect of scarlet fever upon the union of a fracture. In two instances, where union had well commenced, it was destroyed; but, after recovery from the fever, union took place, and good recoveries made.

He then presents two cases, which are excellent illustrations of conservative surgery. The next case is one of dislocation upwards of the middle cuneiform bone. The first efforts at reduction were ineffectual. It was finally reduced by placing a piece of cork over the bone, and over that a piece of the thick end of a shingle, the foot being firmly held against the edge of a wooden-seated chair, so as to bring a convex portion into the hollow of the foot, and making strong pressure.

After presenting several other interesting cases, he speaks of the treatment of carbuncle, erysipelas, and furuncula. He regards them as blood diseases. After clearing the prima vie, he advises the free use of muriat tinct. of iron, quinine, and other tonics, with nutricious food. Local applications may afford some comfort, but will do little if anything more towards a cure. Crucial

incisions should never be resorted to. The whole thing is nothing more than an inflammation of the cellular tissue, running on to death of the part. When separation takes place, recovery takes place, if the system does not succumb.

In felon the same general plan must be followed, with free incision of the part, merely with the expectation of procuring ease from pain, caused by the distension.

The report for 1876 was by Dr. J. W. Parsons. He first calls attention to some very interesting cases of "partial paralysis from reflex irritation, caused by congenital phymosis and adherent prepuce," as presented by Dr. Sayre, of New York, to the American Medical Association. Dr. Sayre was led to suspect that the nervous symptoms present in several cases arose from an unnaturally contracted prepuce. He, therefore, determined to relieve this condition. The first case is so clearly condensed by Dr. Parsons, I cannot do better than to give it in his own words: "Boy, five years old, and delicate in appearance, unable to walk without assistance, or stand erect, his knees flexed to angle of forty-five degrees; both limbs could be easily extended when the child's attention was engaged, though they became flexed again upon removing the slight force applied. In applying the galvanic current, while passing the sponge over the upper part of thighs, the nurse cried out, 'Oh! doctor, be very careful; don't touch his pee-pee; it is very sore.' And, upon examination, the penis was found in a state of extreme erection. The body of the organ was well developed, but the glans was small and pointed, and tightly imprisoned in the contracted foreskin. Upon touching the orifice of the urethra, he was slightly convulsed, and had a regular orgasm. The nurse stated that this was his condition most of the time, and that he often complained at night that his penis hurt him." As nervous exhaustion, and sometimes paralysis, results from excessive venery, Dr. S. recommended circumcision, as a means of relieving the irritated penis. The prepuce was pulled well forward and cut off, when the tegumentary portion readily glided back over the glands, leaving the mucous portion quite finely adherent to the glans, nearly to the orifice of the urethra. Seizing the thickened mucous membrane on either side of the glans with the thumbs and fingernails of each hand, it was suddenly torn off from the glans penis, to which it was quite firmly adherent nearly to the corona. Be-

hind the corona, there was a hardened mass of sebaceous material, almost completely surrounding the glans. This was removed; the mucous membrane, which had been torn off from the glans, was split in its centre, nearly down to its reflection, and being turned backward was attached to the outer portion of prepuce by a number of fine sutures. The penis was covered by a well-oiled linen rag, and kept wet with cold water. Wounds healed in two weeks. From day of operation child improved; slept quietly at night; in three weeks could extend limbs, and in two weeks more could walk, and in less than two months had entirely recovered.

Several other cases of a similar kind were reported, treated in the same way, and giving the same result.

Mention is made of the treatment of fibrous tumors of the uterus with ergot, and its favorable results, shown from tabulated cases by Dr. Byford.

Attention is called to a method of suppressing hemorrhage, by pressure *above* the wound, as suggested by Dr. Thomas B. Kittridge. As the wound is likely to bleed when the compress is removed, when it has been placed in the wound, and as it interrupts the process of healing, it is better to place it over the artery, above the wound. Several cases are given illustrating the efficacy of this treatment.

A very interesting case is given of the fracture of both legs, in a lady eight months pregnant, occurring in the practice of Drs. Crosby & Wilkins. Recovery took place, though it seems probable that it could not have, if she had not been placed on the excellent invalid bed devised by the late Dr. Josiah Crosby. She was delivered of a still-born child about ten days after the accident.

Dr. P. next describes the method of treatment of Pott's disease, with the plaster of Paris bandage, as advised by Dr. Sayre. He then speaks of several cases of different kinds that have occurred in his own experience—the most interesting of which is a very instructive one, of chronic pleurisy, with effusion. For the treatment he advised aspiration, and drew off, at different times, between March 17 and June 20, six and a half gallons of liquid, aspirating twenty-five times.

In the year 1877, there was no report on surgery; but I find an article on reduction of dislocation of the hip, by Dr. Allen, of

White River Junction, Vt., styled a "New Method." This would appear to be a modification of the method known as reduction by manipulation. The steps of this method are: first, flex the leg upon the thigh, and the thigh at right angle with the body; second, step upon the bed, or standing over the patient, place his foot between your own legs, the dorsum bearing upon your nates, and with the right hand under the bend of the patient's knee, lift his hips from the bed, holding him steadily, when in a short time the bone will return to its socket. The weight of the hips and opposite limb rotates the body outwards, producing just sufficient abduction and extension quietly to draw the head of the femur through the slit in the capsular ligament, and direct it into the acetabulum.

For the year 1878, the report was by Dr. Wm. Child. He divides his report into three parts: The social relations of surgery; surgery as a science; and surgery as an art.

Under the first part, he considers the position of the surgeon among men; the consequent requirements; the just and unjust demands made upon him.

Under the second, surgery as a science, he speaks of its development, what our present knowledge has cost, the position it has attained in comparison with other systems, the distinguished names on its roll that may rank with any other names in any calling, the institutions it has fostered for the amelioration of the sufferings of man, and the literature it has furnished.

Under the third, surgery as an art, he speaks of the use of anæsthetics; regarding the use of chloroform unsafe, and therefore unwise.

He discredits the advantages claimed for antiseptics and disinfectants, and holds that perfect safety can only be secured in a room, building and locality, where no infection can possibly exist, with instruments perfectly clean, and persons perfectly pure.

If one must use an antiseptic, he regards none better than alcohol; no dressing less irritating, and more impervious, than cosmoline.

I have thus, fellows, presented what has already been given to you before; but, if this review has interested you as much as it did me in preparing it, I feel that the time I have asked of you has not been lost. I know not where I could have gathered more

suggestive material. I was led to feel more proud of our transactions than ever before. Though we have not in our state any great hospital centres in which to acquire skill and gather experience, still surgery is by no means an unknown science or art to the practitioners of New Hampshire. I doubt if there is any—nay, I believe that there is no state in the Union, of the same population, that has produced more, if so many good—yea, I may say, brilliant surgeons, as our own. What names more honored than Smith, and Muzzey, and Crosby, and Twitchell, and Bell, and Dow, and many others that have graced the annals of this society. Many of them have been, not mere imitators, but inventors and discoverers, and have left imperishable names in this department of our profession.

It did not occur to me to gather up the experience of my professional life, and embody it in this report, for I supposed, at first, it was to cover that only of the past year. But I have given you more than I could have from my own experience, and if I had done no better than others have in getting reports from their fellows, I should not have been much better off; and had I gone to the journals, I should only have presented what already has been read. And this leads me to make a suggestion for our future use, and it is this: that every member of this society report to the person appointed to make the report on surgery, every surgical case that comes into his care during the year, its nature, treatment and result, be these cases small or great. In this way the society could secure the benefit of all the surgery of the state, and only in this way. It should be the duty of the reporter on surgery to arrange these cases, and report them at these annual meetings. Then should we have a plenty of material, and fresh.

I had thought of supplementing this with a few of the most interesting cases that have come under my own observation, but I have already too much taxed your patience. If I have consumed valuable time in repeating what you already had heard before, my apology must be that so much interesting material should not be suffered to remain shut up forever in the archives of the society, but at proper intervals should be called upon to speak of the skill and ability of the New Hampshire surgeons.

GYNÆCOLOGY.

BY S. C. WHITTIER, M. D.

Mr. President and Fellows :

Having been selected to report to your honorable body on Gynæcology, I have the honor to submit the following paper :

Notwithstanding the treatment of uterine diseases is as old as the days of Hypocrates, and was freely written of by this great father of medicine, and has been more or less studied and written of by such authors as Galen, Archigenes, Aretaeus, Celsus, and many other great men of their time, all down through the long centuries to the present, yet not until the revival of the speculum vaginae by Recamier, in the early part of the present century, did it become established as a science ; and instead of relying almost exclusively, as heretofore, on signs and symptoms for their diagnosis of uterine diseases, physicians henceforth sought to discover by sight and touch, more methodically employed, the actual morbid state of these organs, and not only was a greater accuracy of diagnosis thus acquired, but efficient topical treatment was brought to bear upon maladies otherwise irremediable. And notwithstanding the ominous shake of the head by some of the older and self-satisfied members of the profession, there were not wanting those who, seeking after more light, dared to depart from the beaten paths, and investigate those, till then, hidden diseases ; and from that to the present time, the progress of this department of medicine has been truly wonderful. In many internal diseases, there being only symptoms to guide the physician, and no method of investigation by which these symptoms can be corrected and rightly judged of, it frequently is a matter of grave doubt just what is the exact condition of the parts implicated, and what particular plan or procedure is required ; but here there need be no obscurity or hesitation, since he can feel the suffering organs as distinctly, see them as clearly, and treat them as efficiently as any external portion of the body.

To attain proficiency, the finger and the eye must be educated, so that one may correct the mistakes of the other.

It is desirable, in most cases, to make a digital previous to an instrumental examination, since touch strengthens or weakens the opinion formed from the symptoms, often enables us to form a tolerably accurate diagnosis, and renders the information derived from a speculum examination more satisfactory and reliable.

The speculum of Ferguson, for general use, may rightfully supplant all others, conferring, as it does, all their advantages, and possessing, in addition, certain qualities not otherwise attained, two conditions only being necessary, namely, short cylinder, and large size.

What is seen by the use of the speculum depends not so much on the eye as on the brain which appreciates. If the mind of the physician be preoccupied by the doctrines of Bennett, he will invariably discover the unmistakable evidences of chronic inflammation, ulceration, induration, and hypertrophy,—structural changes requiring the most destructive agents for their removal. If by those of Robert Lee, he will, by the closest scrutiny, discover nothing but a slight abrasion of the epithelium, or a mild catarrh of the mucous membrane. Conditions as trivial in import and common in occurrence as like states of the schneiderian membrane, and as easily rectified by general remedies. If, however, the physician employ his eyes as in studying other objects, he will readily acquire a correct knowledge of the parts brought to view. The structure and function of the internal genitalia dispel the darkness obscuring uterine pathology, indicate the point of departure of the normal into the abnormal, the direction of morbid action when incited, and the probable effect of an increased vascular and nervous supply to structures capable of the physiological congestion and hypertrophy, observed in pregnancy. A like fulness of the vessels, and a like exaltation of the nerves, but of a continuous character, is the pathological condition in all cases of womb-disease; and the necessity for menstruation, and the extensive web of blood-vessels in the middle coat of the uterus, the rugæ of the cervix, and the erectile coat of the vagina, is the remote causation.

An eminent author has truly said that "a whole generation of physicians has been misled by the delusion of *chronic imflammation and ulceration* of the uterus." That there is congestion, and

not inflammation, or ulceration (unless of specific or malignant origin), is proved by the puffy and elastic feel of the neck; by its slight increase in temperature; by the trivial pain caused by an examination; by the increase in the size of the uterus,—greater often by two or three times than during menstruation; by the congested os tincæ, as seen by the speculum; by the persistency of uterine disease for years, with little or no variation; by the restoration of the uterus to its normal state by local depletion; and by the absence, in all cases examined after death, of structural changes, inflammatory products, or ulcerative lesions.

'In treating confirmed uterine disease, it is scarcely worth the while to consume time in battling with the symptoms, prescribing medicines and enforcing a variety of orders to meet the several morbid states, since all efforts on the part of the physician, and all annoyances inflicted on the patient, will go for naught as long as the hidden trouble, the uterine congestion, remains unrelieved. General remedies, therefore, hold a secondary place, and are only useful as adjuncts to the local treatment, since, on the removal of the source of disorder, each organ has, when no longer perverted in its operations, a tendency to return to its normal state. In a word, the removal of the congestion is the first step,—one preliminary to any other,—and not infrequently this is all that is required to dispel every symptom and re-establish the health on a sure and enduring basis.

As a preternatural hyperæmia of the cervical, of the cervical and uterine, of the cervical, uterine, and vaginal, or of all these and the ovarian veins; is always present, and varying in degree and extent only, is ever the underlying, hidden cause of the symptoms, and the changes discoverable by touch and sight, and as this hyperæmia, rekindled and perpetuated by each monthly influx, remains in the intervals, and prevents a restoration of the circulation to its due balance, it is essential to success in the treatment, that the engorged vessels should be relieved by artificial means. In carrying out this plan, the attention must not be diverted into side issues, but fixed steadily upon the main indication,—the removal of the congestion,—which, being fulfilled, the cure is accomplished. Whether amenorrhoea, menorrhagia, dysmenorrhoea, leucorrhœa, hypertrophy, mucous inflammation, hyperaesthesia, prolapsus, flexion, or version attends the womb-

disease or not, is of no present importance, and need not occasion doubt or hesitation, since in all cases the pathological state is the same, the chronic and active congestion of the deeper tissues, that must be subdued before it can be possible to reach the various perversions of function, and changes in form and position.

Our purpose, therefore, should be, however urgent and diverse the complications, to second the natural tendency to involution by the employment of those means that would tend to diminish the hyperæmia and to restore the weakened capillaries to their proper tonicity. This end is attainable in one way only, the direct abstraction of blood from the suffering organ, a plan of procedure in harmony with that by which the physiological and pathological congestions of the uterus are always resolved; the first by the menses or lochia, and the second by a metrorrhagia or menorrhagia. The erectile vessels of the uterus and vagina being engorged, the blood taken should come from these, and from no others, and be of a quantity just sufficient to relieve the distension and allow of contraction. Depletion of the general circulation, or of vessels not implicated in the disease, can do no good, and may do much harm by lessening the blood that is, perhaps, already impoverished. Cups to the sacrum, or leeches to the abdomen, rectum, or vulva, are of more than doubtful propriety, as the drainage is not from the uterine or vaginal veins; and, for the same reason, leeches to the vagina are less efficient in congestion of the uterus, or of the uterus and ovaries, than when applied to the cervix. Leeches to the cervix, however, relieve all the genital blood vessels, the vaginal and ovarian equally with the uterine, and answer every purpose they are capable of subserving in the treatment of womb-disease.

This peculiarity is accounted for by the fact that, as the congestion, which pertains to menstruation and pregnancy, centres in the uterus, the theatre of those vital changes resulting in the periodic or the continuous influx of blood, so in a like manner the congestion, which pertains to womb-disease, establishes itself first in the uterus, and thence extends to the ovaries and vagina. Therefore, in every grade of morbid congestion, whether confined to the uterus or implicating the vagina and ovaries as well, the cervix is the proper place from which to draw blood; and it is ever found that the outposts of the disease, the portions last in-

vaded, are the earliest to yield; first the vagina and ovaries feeling the beneficial results, then the corpus uteri, then the cervix, and lastly the inner cervix.

In other words, the disease is checked in its march, driven back towards its centre, and finally forced to its citadel, the spongy folds of the inner cervix, where it last surrenders. The depletion should be sufficient to relieve the veins of distension, and offer them an opportunity to contract, but never excessive, as it would, if too copious, counteract the object had in view.

The nervous irritability abating, both from the diminution of the venous engorgement, and the check to the arterial influx, the uterus, by a species of involution, condenses its walls, and lessens the capacity of all its blood-vessels. The design is not to eradicate the disease by a sudden onslaught, nor by the mere loss of blood, but rather to make it possible, by giving relief to the congestion at stated intervals, for the natural laws to inaugurate, carry forward, and complete the involution, which being accomplished, the cure is also attained. The amount of blood necessary to facilitate this process, and the time suitable for its abstraction, are important items that ought to be duly weighed. In ordinary cases, from four to eight drachms is sufficient to relieve the congestion, but not enough to waste the circulation or create a flow to the point of depletion. When, however, the womb is much increased in size, and very sensitive, or when the disease is so extensive as seriously to implicate the vagina and ovaries, it often has a salutary effect to take two or three ounces, on one or more occasions, at the close of menstruation; but usually the first named amount is ample for all curative purposes. The depletion, to be most beneficial, should be practiced the third or fourth day after the disappearance of the menses, and repeated every seventh or eighth day until they return. An interval, however, of some four or five days should intervene between the last operation and the next period, for fear that the menses might be accelerated, delayed, lessened, prevented, or in any other way disturbed. It is of the first importance that the catamenia return, run their course, and subside normally, as otherwise the difficulties in the way of success are greatly enhanced. In fact, the continuous perversion of the physiological congestion always renders the pathological nearly irremediable. When, however, the menses are menorrhagic, this caution

need not be observed, as the relief of the overcrowded capillaries just previous to a period, tends, by imparting tonicity, to check an excessive flow; nor when they anticipate, as this abstraction tends, by lessening the congestion, to lengthen the interval; but when they are absent, infrequent, or scanty, every care is to be exercised not to supplant the physiological by an artificial hæmorrhage.

Local depletion may be effected by three methods,—scarification, puncture, or leeching. As, however, it is desirable to be able to draw a certain average quanity, the one is to be preferred that promises to subserve this purpose most completely. Scarification, or puncture, one or both, as the case may demand, should be preferred, as they can be controlled perfectly, drawing as much or little blood as desired. Leeches, on the contrary, are not always at hand, give trouble to the physician, and alarm the patient, remove an uncertain quantity, and sometimes produce troublesome hæmorrhage. The suction of leeches is also apt to determine an active current to the uterus, particularly when the loss is copious, by which means the veins are refilled as soon as they are emptied, a beneficial effect is counteracted, and more harm than good is done. Scarification and puncture, therefore, may be relied on to fulfil every indication in all ordinary cases, and are only to give place to leeches, when the loss of blood is found on trial insufficient to relieve the congestion.

More than this, scarification has, aside from the benefit it affords by the loss of blood, a direct topical action in relieving the hyperæsthesia of the uterus, particularly when the cervical nerves are abraded, and subjected to external sources of irritation.

These nerves terminating in the papillar, that are rendered extra sensitive by the congestion and denudation of their extremities, are divided with the engorged blood-vessels; and thus at one and the same time the disease is mitigated, both by discharging the capillaries, and by blunting the nervous irritability, a neuralgic state on which the continuance of the morbid action is often mainly dependent.

Wherefore, since the nerves of sensation are restricted almost entirely to the vaginal cervix, which is the first to suffer from, and the last to part with congestion, and since the loss of epithelium by exposing these nerves, keeps alive the irritability and perpetuates

the disease, it is readily comprehended why scarification is, in most instances, especially advantageous, and in many, superior to any other mode of depletion. A local loss of blood is not only to be relied on for reducing the congestion, but also, at times, for demonstrating its existence, inasmuch as it would often enable the operator, should the ocular signs be uncertain or deceptive, to arrive at a correct diagnosis.

As the healthy uterus during the menstrual interregnum has a restricted circulation, and is in no sense of the word a vascular organ, a few drops of blood only following scarification, puncture, or leeching; so, likewise, as the congested uterus returns to its normal state, the flow becomes less and less, and on the cure being completed, is insignificant.

The points to be selected are the lower half or two thirds of the cervical cavity, the os uteri, and the abraded surface, the sites of engorged capillaries.

The flow from these slight cuts will not only unload the capillaries of the mucous membrane, but will also draw the blood from the cervical glands, and indirectly from the uterus.

It is expedient, usually, that all the vessels involved may be relieved, to scarify the entire surface mentioned; and always that of the os uteri and lower third of the cervical canal, as here the congestion retains its last hold.

The cuts on the abrasion should be light, and so numerous as to divide most of the papillæ, with their vascular loops. This operation is to be repeated at stated intervals until the disease is reduced to a simple hypersecretion of the cervical glands, uterine catarrh, and then its place supplied by topical applications, to restore tone to the sluggish capillaries of the inner cervix and restrain the secretion of its mucous glands.

What these shall be is a secondary matter; in reality is of little moment, provided they are moderately stimulating, and yet not irritant, and above all not corrosive. Even the solid nitrate of silver, which is in no sense of the word a true caustic, as its impression being superficial is never destructive, like an escharotic, is too energetic for common use, and therefore is likely to excite more active symptoms. In some cases, the nitrate works admirably, especially when there is much softening and a spongy feel of the os, or where there is much erosion; but care should be had not to

use too strong a preparation, never the solid stick, and "hardly ever" a solution stronger than from thirty to fiftygrains to the ounce.

Iodine has also proved one of the most valuable and reliable remedies, and it is one that loses nothing of its efficacy by frequent use. It is not only a local stimulant, by which congestion is relieved, but is likewise a reliable alterative and an efficient exciter of uterine contraction. It acts promptly in causing contraction of all the blood-vessels within range of its influence, and its stimulating effect on the absorbents is well known. Of all remedies applied within the uterine canal, iodine will be taken up into the general circulation the soonest, and it can be detected by the taste in an incredibly short space of time; it, therefore, acts not only locally, but also as a general alterative on nutrition. One or the other of the above preparations, according to the circumstances of the case, best fulfil the indications, and is the most successful in eradicating the remains of disease still lingering in the nabothean glands.

The iodine or nitrate (of the proper strength) should be applied about every seventh or eighth day, while the cervical secretion continues in excess; that is to say, until the disease is cured. Now the erosion will be found covered with epithelium, the labiæ uteri restored to their original contour, the inner cervix relieved of congestion, and the mucous glands restricted to a secretion natural in quantity and quality—one enough to lubricate the vagina, but not to appear visibly in the os uteri. To prevent a relapse, it is advisable before discontinuing the local treatment, even when the normal secretion of the nabothean glands is re-established, to apply the remedies once or twice following the close of menstruation, as this act is prone, through the physiological hyperæmia induced, to leave the cervical capillaries relaxed and over-full, and consequently to renew the leucorrhœal discharge.

Chromic acid, sulphate of copper, nitric acid or the chloride of iron, in proportions calculated to condense the weakened capillaries, but not to arouse an active circulation, or corode the tissues, may be selected at the option of the physician, and yet none of these, much less other cauterants of greater potency, can produce a remedial effect not attainable by one or other of the first named articles. The only portion of the uterus requiring stimulant applications, is the inner cervix, the site of the mucous follicles, that often continue to secrete as freely after as before the reduction of

the more general congestion. The lining membrane of the uterus proper, on the contrary, having little vascularity, and being destitute of mucous follicles, improves on the removal of the congestion from its subjacent structure on which it is dependent for its nervous and vascular supply.

Then we may lay this down as a rule, to restrict all applications to the space between the os internum and externum; in other words, to the part studded with mucous glands.

If, then, we pursue the line of treatment here indicated, and not allow our attention to be diverted to incidental disorders, that one and all spring from a common source, the increased blood-flow and blood-stasis in the genital capillaries, we will find that, in proportion as the congestion is subdued, the uterine structures return to their normal state, and that no special treatment is needed to reduce the hypertrophy, heal the erosion, disperse the cervical enlargement, or restore the mucous membrane to its normal condition.

The fountain head failing, each stream that arises from it will, as a necessary sequence, also fail.

The cause becoming inoperative, the effect will cease to be produced.

The blood and nerve supply being reduced to the normal rate, the morbid fullness of the erectile coats of the uterus and vagina will disappear, and a process, like the involution following a miscarriage, will be instituted for the removal of the adventitious structures, and the uterus prepared anew to execute its various functions with regularity and completeness.

In other words, when, by artificial means, the blood is restrained within bounds, and the nerves are freed from preternatural sensitiveness, natural laws will, by asserting their supremacy, remove the results of diseased action, over which the rude appliances of the medical art have no further power.

This restoration of the physiological structure of the genitalia, restores likewise their physiological functions in their integrity. Amenorrhoea, menorrhagia, and dysmenorrhœa give place to a more natural state of the menses; which, when absent, return; when scanty, become abundant; when excessive, are checked; and when painful, are freed of suffering. A cure, to merit the name, ought to comprise all these several items, as otherwise it is a delusion to the physician, and a sham to the patient.

DOVER (N. H.) PHYSICIANS.

BY JOHN RANDOLPH HAM, M. D., OF DOVER.

The following sketch of the Physicians of Dover, N. H., is designed to embrace the name of every regular physician who has practiced in Dover, whenever existing records have preserved a trace. The names are arranged in the supposed order of settlement, and the date prefixed to each indicates the earliest year in which the physician is known to have been in practice in Dover.

1631. DR. RENALD FERNALD, sent out to New Hampshire by Capt. John Mason, of England, in 1631, was the first physician and surgeon among the New Hampshire settlers. He resided at Portsmouth, N. H., but was only five miles below the settlement at Hilton's (now Dover) Point. He was undoubtedly physician to the Dover settlement 'till his death in 1656.

1684. DR. JOHN BUSS was born in 1640, and was an educated physician. He began the practice of medicine at Wells, Me., in 1672, and, although it does not appear that he was ever ordained, preached to that people, in addition to his medical practice. In 1684 he moved to Dover, and settled in the Oyster River parish; practiced medicine and preached in that parish 'till 1718, when he retired. In the attack upon the Oyster River parish by the Indians, 18 July, 1694, his house, with a valuable library, was destroyed by fire; he was absent at the time, and his wife and children fled to the woods. The parish of Oyster River became the town of Durham in 1732; he died in Durham in 1736.

1717. DR. THOMAS ALDEN was practicing in Dover as early as Dec. 28, 1717, when he witnessed the will of Judge John Tuttle. He was surgeon in 1722 to a company of soldiers that cut a road from Dover to Lake Winnipisaukee; and had land laid out to him, July 4, 1723, by the town of Dover. He was found dead in the highway, at his horse's feet, March 8, 1732, having a deep wound in his head, supposed to have been received, in his fall, from a glass bottle which he held in his right hand; one of

his legs was broken, and he was frozen stiff. His widow, Elizabeth, returned an inventory of £170, 4s, 10d.

1718. DR. JONATHAN CROSBEE was practicing in Dover as early as 22 Oct., 1718, at which date he bought of James and Mary Burnham 18 acres of land in the Oyster River parish. He sold his Oyster River property, 18 Sept., 1722, to Joseph and Samuel Smith, and moved to over Ne ck, where he bought of Joshua Cromwell 12 acres of land, 21 Oct., 1723. He had wife, Hannah, and the dates of birth of their children begin in 1719 on the town records; with his second wife, Mary, he sold his dwelling-house and land, on Dover Neck, to Nicholas Hartford, 16 July, 1731, and probably left Dover.

1720. DR. SAMUEL MERROW, son of Henry Merrow, was born in Reading, Mass., 9 Oct., 1670 (o. s). He began to practice medicine in Dover, in about 1720, and was in practice there as late as 1733. He lived in the Oyster River parish, now Durham; moved to Rochester, N. H., and died there about 1740.

1729. DR. THOMAS MILLER was practicing in Dover as early as 1729; the dates of baptism of his children, on the church records, beginning in that year. He was appointed in 1745, by the House and Council, Surgeon of the N. H. regiment, under Col. Moore, in the Louisburg expedition. He lived in the parish of Somersworth, which parish became the town of Somersworth in 1754, and died in Somersworth; the administration of his estate was granted to John Gage, of Dover, June 30, 1762. His estate was appraised at £1126, 6s, 11d.

1735. DR. CHENEY SMITH was practicing in Dover as early as 1735. He married Eunice, daughter of Capt. Thomas Baker, of Dover, and lived on the corner of Pleasant and Silver streets. He was Assistant Surgeon of Col. Nathaniel Meserve's N. H. regiment in 1757, in the Crown Point expedition. He died about 1759, leaving five daughters, and one son (Cheney) who died a soldier in the Revolution. Tradition says Dr. Smith prescribed for himself a little grog several times a day, so often, indeed, that the doses often unfitted him for prescribing for others.

1735. DR. MOSES CARR was born 25 Nov. 1715 (o. s.), in Newbury, Mass.; began the practice of medicine in 1735 in Dover; married Mary, daughter of Paul Gerrish, of Dover,

and lived in the parish of Somersworth. In addition to his medical practice, he was Judge of the Court of Common Pleas from 1776 to 1784. He practiced, with reputation, 'till within a few years of his death, which occurred 30 March, 1800.

1759. DR. MOSES HOWE was in practice in Dover as early as 1759, the dates of baptism of his children beginning in that year. He was elected Moderator of a town-meeting in 1766. He died in Dover, "of bleeding," Nov. 2, 1776.

1762. DR. EBENEZER NOYES was born in 1739, in Newbury, Mass., and was graduated in 1759 from Nassau Hall, Princeton, N. J.; studied medicine, and began to practice in Dover, about 1762, and practiced until his death, which occurred Aug. 3, 1767. His tombstone, which is standing near Col. John Waldron's burial-ground, above Garrison Hill, Dover, gives the date of death as above, while Coffin's History of Newbury says he died the 11th of August.

1767. DR. EZRA GREEN was born June 17, 1746 (o. s.), in Malden, Mass.; was graduated from Harvard College in 1765; studied medicine with Dr. Sprague, of Malden, Mass.; settled in Dover as a physician in 1767. In June, 1775, on the Sunday after the battle of Bunker Hill, he joined the N. H. regiment under Col. Reed, on Winter Hill in Charlestown, as Surgeon; and served 'till the winter of 1776, when he left the army and returned to Dover. He was commissioned, in Oct., 1777, as Surgeon of the ship-of-war *Ranger*, under the command of Capt. John Paul Jones, and on Nov. 1, sailed for France, and was in the engagement with the *Drake*. The *Ranger* returned to Portsmouth, N. H., in Oct., 1778, and Dr. Green left her and returned to Dover. He married, 13 Dec., 1778, Susanna, daughter of Reuben Hayes, of Dover; sailed again as Surgeon of the *Ranger* in March, 1779, and left her again in July, 1779. He sailed in 1780, as Surgeon of the *Alexander*, and remained in her 'till the autumn of 1781, when his revolutionary service ended. At the close of the war, he relinquished his medical practice to his friend and successor, Dr. Jacob Kittredge, to whom he gave his books, medicines and surgical instruments, and then commenced a mercantile business in Dover. He was the first Postmaster of Dover, and he held the office several years; was chosen Deacon of First Church, Dover, in 1790, and served 'till 1829; was a member of the State

Convention, in June, 1788, which adopted the Constitution of the United States; and he died in Dover, 25 July, 1847, aged 101 years and 27 days.

1768. DR SAMUEL WIGGLESWORTH, son of Rev. Samuel Wigglesworth, of Ipswich, Mass., was born 25 Aug., 1734; was graduated from Harvard College in 1752; was teacher of the Ipswich Grammar School from May 6, 1755, to May 2, 1759; studied medicine and began practice in Ipswich, Mass.; and was in the practice of medicine in Dover about 1768. He lived on Central street, Dover, in the building next south of the present Belknap church, which house he, with his brother John, a trader in Dover, sold in 1771 to John Wentworth, Jr. He was Surgeon of Col. John Waldron's regiment in the winter of 1775-6; was teaching the Pine Hill school, Dover, in the summer of 1776, in addition to his medical practice; and was Surgeon of Col. Joshua Wingate's regiment in 1776-7. He married, 9 Sept., 1779, Mary, daughter of George Waldron, of Dover, and niece of Capt. Thomas Westbrook Waldron, and next lived on the spot where the present Episcopal church now stands, on Central street, Dover. He left Dover as early as 1792, and settled in Lee, N. H., where he died about 1800.

1782. DR. JACOB KITTREDGE was born in Andover, Mass., 15 March, 1761; was a student at Phillips Andover Academy in 1778; was probably in practice in Dover as early as 1782, since Walter Cooper Green, in his sketch of the life of his father, Dr. Ezra Green, of Dover, says when his father ended his revolutionary service he relinquished his medical business in Dover to his friend and successor, Dr. Jacob Kittredge. Dr. Kittredge became a Fellow of the N. H. Medical Society in 1792. He lived on the corner of Central and Kirkland streets, Dover, in a house which had been kept as a tavern by Abraham Hanson in the Revolution, and which is still in good preservation. He died in Dover, 15 July, 1807.

1795. DR. —— CARLTON was practicing in Dover as early as 1795, and was elected, in that year, Moderator at a town-meeting. His name does not appear on the tax list of Dover in 1793, nor in 1797; his residence in Dover could not have been more than four years.

1802. DR. JABEZ DOW, son of Nathan Dow, of Kensington, N. H., was born 24 Jan., 1776; was educated under Rev. Mr.

Shaw, of Kensington; entered Dr. Jacob Kittredge's office, in Dover, as a medical student in 1793; began the practice of medicine, in Kensington, in 1796; married Hannah Waite, of Malden, Mass.; and moved to Dover in May, 1802, where he practiced 'till his death, on 9 Jan., 1839. He was one of the founders of the Strafford District Medical Society in 1808; became a Fellow of the N. H. Medical Society in 1816; and was the best known surgeon in Dover and surrounding towns for more than thirty years. He lived on Silver street, in a house kept as a tavern by Thomas Footman prior to 1800, and in which Henry Dow, his son, now lives.

1803. DR. JACOB MAINE, son of Josiah, and grandson of Rev. Amos Main, the first minister of Rochester, N. H., was born in Rochester; was graduated from Harvard College in 1800; studied medicine with Dr. Ammi R. Cutter, of Portsmouth, N. H.; married Sarah Ann, daughter of his preceptor; and began the practice of medicine in Dover, in 1803. In addition to his medical practice, he kept an apothecary store on Main street. He died in Dover, of consumption, between 15 July and 30 Nov., 1807.

1808. DR. JOSIAH LANE, son of Joshua Lane, of Stratham, N. H., was born May 21, 1778; was practicing in Dover as early as 1808; was twice married, his last wife being Sarah Pearson. He remained in Dover only two or three years, and then went to Gilmanton, N. H. He subsequently practiced in New York; was practicing in 1840, in Ohio; and died in 1860, in Pennsylvania.

1808. DR. JONATHAN B. GREELEY, son of Jonathan Greeley, of East Kingston, N. H., was born there in 1785, his mother being Mary, daughter of Governor Josiah Bartlett. He came to Dover as early as 1808, and practiced 'till 1815, when he returned to East Kingston. He married (1st) Susan Richardson, of Durham, N. H., July 3, 1810, and after his return to East Kingston, he married (2d) Hannah Stevens, of that place. He was a member of Strafford District Medical Society; was a man of fine talents, and was skillful in his profession, but ruined himself by intemperance; and died 11 Feb., 1819, leaving a widow only 19 years of age. His widow, Hannah, completed her studies at Bradford (Mass.) Academy, and married (2d) Theodore Noyes, of East Kingston; she became the mother of Hon. Edward F. Noyes, ex-Governor of Ohio, and present United States Minister to France.

1812. DR. DAVID PLUMMER advertises, in 1812, to the citizens of Dover, that he has taken an office for the practice of physic and surgery.

1814. DR. —— TAYLOR was in practice in Dover as early as 1814; he was a well educated physician, and, in addition to his medical practice, taught Latin and Greek to young men fiitting for college.

1815. DR. JONATHAN FLAGG was a resident physician in Dover as early as 1815; was a well read physician, but was not popular, on account of his strict temperance principles. He left Dover, in 1817, and settled in Boston, Mass., where he gave up the practice of medicine and became a leading dentist.

1815. DR. JONATHAN WOODBURY, son of Dr. Robert Woodbury, of Barrington, N. H., was born 13 June, 1791; he was educated at Gilmanton and Exeter, N. H., Academies; read medicine with his father in 1812, and with Dr. Jabez Dow, of Dover, in 1813 and 1814, and began the practice of medicine, in 1815, in partnership with Dr. Dow, in Dover. He left Dover, in 1817, and settled in practice in Union, N. Y., where he remained 'till his death, May, 1835. He was a member of Strafford District Medical Society.

1816. JACOB KITTREDGE, M. D., son of Dr. Jacob Kittredge, of Dover, was born 1 Oct., 1794; read medicine with Dr. Jabez Dow, of Dover; was graduated from Harvard Medical College in 1816, and began the practice of medicine in the same year, in Dover. He was a Fellow of the N. H. Medical Society, a member of the Massachusetts Medical Society, and of the Strafford District Medical Society; and was a member of the N. H. Legislature in 1830 and 1831. He built the house next to his father's, on Central street, and resided in it—the one now occupied by Mrs. Wm. F. Estes. He was in practice in Dover until within a few days of his death, which occurred from inflammation of the bowels, Dec. 18, 1831. He visited his patients at Piscataqua Bridge on the Friday preceding his death, and for twenty-one years had not been confined to his house a single day by sickness. No man in Dover could have been taken away whose loss would have been more severely felt. His funeral was from the Unitarian church, and Rev. Dr. S. K. Lothrop pronounced the eulogy, a large concourse of people being present.

1818. DR. ASA PERKINS, son of William Perkins, of Dover, was born 5 April, 1793; read medicine with Dr. Dow, of Dover; began practice in 1816, in Rochester, N. H.; returned to Dover, in 1818, and practiced 'till 1830, when he was obliged, from ill health, to relinquish his practice. He was a Fellow of the N. H. Medical Society, and a member of Strafford District Medical Society. He continued to reside in Dover 'till his death, which occurred from consumption, May 3, 1850.

1821. GEORGE WASHINGTON KITTREDGE, M. D., son of Dr. Jacob Kittredge, of Dover, was born 15 Feb., 1800; was graduated from Harvard Medical College, in 1821, and began the practice of medicine in the same year, in Dover; was member of Massachusetts Medical Society, Fellow of N. H. Medical Society, and member of Strafford District Medical Society. He lived in the old tavern of 1776, in which his father lived and died, and which is yet standing, on the corner of Central and Kirkland streets. He died, in Dover, 4 July, 1836, from a pulmonary disease induced by the inhalation of chlorine while fumigating himself after visiting patients in a small-pox epidemic.

1824. FREEDOM SEAVER, M. D., of Vermont, was graduated from Harvard Medical College in 1822; was in practice in Dover as early as 1824, and as late as 1825. He was a member of Strafford District Medical Society.

1825. DR. SAMUEL WAITE DOW, son of Dr. Jabez Dow, of Dover, was born 26 Sept., 1802; read medicine with his father; attended medical lectures at Harvard College; began practice in Dover, in 1825; was a Fellow of the N. H. Medical Society, and member of Strafford District Medical Society; was obliged, in 1836, from ill health, to give up practice; and died 15 May, 1837, in the McLean Insane Asylum, in Somerville, Mass.

1825. ARTHUR LIVERMORE PORTER, M. D., was born in 1794, in Portsmouth, N. H.; was graduated in 1818, from Dartmouth Medical College; was Professor of Chemistry and Pharmacy in the University of Vermont; left Burlington, and assisted John Williams, agent of Dover Manufacturing Company, in the summer of 1825, in starting the Bleachery and Printworks in Dover; from which the first shipment of calicoes was made to Boston market, in February, 1826. He visited Europe, in April, 1826, in the interests and employ of the Dover Manufacturing Company,

and returned in Aug., 1827; re-organized the Printworks on his return, and was superintendent 'till Nov., 1829, when, being superseded, he gave his entire attention to the practice of medicine in Dover. He left Dover, in 1836, and settled in Detroit, Michigan, where he practiced 'till his death, which occurred from erysipelas, in 1845.

1831. NATHANIEL LOW, M. D., son of Dr. Nathaniel Low, of South Berwick, Me., was born 4 July, 1792; was graduated from Dartmouth College in 1809, and from Dartmouth Medical College in 1813; began the practice of medicine in 1813, in South Berwick, Me.; was a member of the Maine Legislature in 1825; moved to Portland, Me., in 1825, and was editor of a political paper for two or three years; was Secretary of the Maine Senate in 1827; was Postmaster of Portland; moved to Dover in 1831, and, with the exception of short absences, has practiced continuously in Dover since that date. He was a member of the N. H. Legislature in 1846 and 1847; was Postmaster of Dover in 1863-65; and is a Fellow of the N. H. Medical Society, and member of Strafford District Medical Society.

1832. DR. SOLON STARK, son of Dr. James Stark, and grandson of Archibald Stark, was born in Hopkinton, N. H.; practiced medicine in Dover, in 1832; went to St. Louis, Missouri, in 1833, and practiced 'till his death, in 1877. His grandfather, Archibald, was a brother of General John Stark of the Revolution.

1832. JOSEPH HAVEN SMITH, M. D., son of John Smith, was born in Rochester, N. H., 17 Nov., 1805; was graduated from Bowdoin Medical College in 1829; settled in practice in 1829, in Rochester, where he remained three years; moved to Dover, in 1832, where he practiced until 1867, when he moved to Lowell, Mass., where he is yet in practice. He married (1st) Meribah Hanson, and (2d) Mrs. —— Wiggin, of Dover. While in Dover, in addition to his medical practice, he was editor of the *Dover Gazette* for several years. He was an active member of the Dover School Committee; was Inspector of Drugs in the Boston Custom House, under President Pierce, residing in Dover; was Representative in the N. H. Legislature in 1837, and member of the State Senate in 1844-45; is a Fellow of the N. H. Medical Society, and was its President in 1849. Since residing in Lowell, he has edited a paper in addition to his medical business.

1833. DR. JOSEPH HAMMONS was born in 1787, and was in practice in Farmington, N. H., as early as 1817, and while in practice in Farmington, he was twice elected Member of Congress, his terms of service beginning 4 March, 1829, and ending 4 March, 1833. He moved to Dover in 1833, and practiced 'till his death, which occurred 28 March, 1836. He was Postmaster of Dover in 1833; was a Fellow of the N. H. Medical Society, and a member of the Strafford District Medical Society.

1833. ROBERT W. WELLS, M. D., was born in Philadelphia, Pa., in 1795; was brother to Lloyd W. Wells, Esq., formerly Agent of the Great Falls Manufacturing Company; was educated in Philadelphia; read medicine with Dr. Bush, one of the first physicians of New York city; was graduated from a medical college in New York; came to Dover and practiced in 1832-3, remaining one year. He went to Louisiana in 1833, and practiced 'till his death, in 1848. He was never married.

1834. NOAH MARTIN, M. D., was born in Epsom, N. H., 26 July, 1801; read medicine with Dr. Pillsbury, of Pembroke, N. H., and Dr. Graves, of Deerfield, N. H.; was graduated from Dartmouth Medical College in 1824; practiced one year with his preceptor, Dr. Graves; went to Great Falls, N. H., in 1825, and practiced there nine years; married, 15 Oct., 1825, Mary J., daughter of Dr. Robert Woodbury, of Barrington, N. H.; moved to Dover, in 1834, and practiced there until his death, which occurred from apoplexy, May 28, 1863.

In 1830 and 1832, he represented Great Falls in the N. H. Legislature, and in 1837 he represented Dover in the same body; was member of the N. H. Senate in 1835 and 1836; was Governor of New Hampshire in 1852 and 1853; became member of Strafford District Medical Society in 1835, and its President in 1841 and 1842; became Fellow of the N. H. Medical Society in 1836, and its President in 1858; was one of the founders of the Dover Medical Society, and was its first President, in 1849 and 1850; became member American Medical Association in 1849; was delegate from N. H. Medical Society in 1849, to examine the graduating class of Dartmouth Medical College, and to deliver the address to the same; was President of the Savings Bank for the County of Strafford from 1844 to 1852; was Director of Dover Bank from 1847 to 1855; and Director of Strafford Bank from

1860 to his death; was corporator N. H. Agricultural Society, and its Vice-President in 1849 and 1851; was Trustee, in 1852 and 1853, of the N. H. Asylum for the Insane; became member in 1853 of N. E. Historic Genealogical Society, and its Vice-President in 1855; became member, in 1853, of N. H. Historical Society; was Trustee, in 1855, of N. H. Reform School; was Free Mason and Odd Fellow. Dr. Martin was a skillful physician, and the leading practitioner of Strafford County.

1835. DR. HARVEY G. FORD was in practice in Dover as early as 1835; became member in 1836 of the Strafford District Medical Society. He accidentally inoculated the children of one of the leading families of Dover with the virus of variola, causing the death of the oldest daughter, and by so doing created such a public sentiment against him as to oblige him to seek another field; left Dover, in 1840, and settled in Philadelphia, Pa., where he shortly after died.

1835. JAMES WELLINGTON COWAN, M. D., son of James and Harriet (Fiske) Cowan, was born 23 June, 1814, in Pleasant Valley, N. Y.; his parents afterwards living in Dover and Great Falls, N. H. He read medicine with Noah Martin, M. D., and was graduated from Dartmouth Medical College in 1835; began the practice of medicine in 1835, in Dover, and practiced there until within a few months of his death, which occurred from consumption, 21 July, 1848. He married, 5 Oct., 1837, Elizabeth, daughter of William Hodgdon, Esq., of Dover. He was a member of the N. H. Legislature in 1844; was a Fellow of the N. H. Medical Society, and a member of Strafford District Medical Society; was a good physician, and had a large practice.

1836. ALBERT GALLATIN FENNER, M. D., son of Elhanan W. Fenner, was born 1 Dec., 1813, in Taunton, Mass.; read medicine with Arthur Livermore Porter, M. D., in Dover; was graduated from Dartmouth Medical College; began to practice in 1836, in Dover, where he has practiced continuously to this date; is a Fellow of the N. H. Medical Society; and is a member and ex-President of the Strafford District Medical Society; and has served on Dover School Committee for several years.

1836. TIMOTHY HILLIARD, M. D., was graduated in 1809, from Harvard College; and from Harvard Medical College in 1824. Between 1809 and 1824, he was clergyman and teacher; from

1824 he was physician, and teacher in various academies. He came to Dover, in 1836, and practiced medicine for two years; left Dover in 1838, moved to Epping, N. H., and died there in 1847.

1837. JEFFERSON SMITH, M. D., son of Dr. Daniel Smith, was born in Berwick, Me., in 1808; began the study of medicine in 1829, with Dr. Burleigh Smart, of Kennebunk, Me.; was graduated, in 1832, from Bowdoin Medical College; practiced one year in Gray, Me.; moved to Springvale, Me., in 1833; and came to Dover, in 1837, where he practiced 'till his death, which occurred from diphtheria, May 17, 1864. While in Dover, he practiced dentistry in connection with medicine. He was member of Strafford District Medical Society.

1838. DR. LEVI MERRILL was in practice in Tuftonborough as early as 1819; left Tuftonborough in 1838, and moved to Dover, where he practiced seven years; then moved to Boston, Mass., where he practiced for six years; returned to Dover, in 1851, and again opened an office for medical practice. While in Dover, in 1851, his wife died; he finally moved back to Tuftonborough, and died there. While in Dover, he was an assistant editor of the *Dover Gazette*, and was also a member of the Dover School Committee; he was a member of the Strafford District Medical Society.

1839. RICHARD STEELE, M. D., son of Judge Jonathan Steele, was born at Durham, N. H., 6 Jan., 1797; was graduated from Dartmouth College in 1815, and from Dartmouth Medical College in 1825; commenced the practice of medicine at Portsmouth, N. H., and continued it successively at Durham, Peterboro', Dover, Lowell, Mass., Great Falls, N. H., Boston and Newburyport, Mass. He was in practice in Dover only one year, in 1839; he returned to Dover from Newburyport, in 1867, and died there June 13, 1869. He was married four times; his second wife was a daughter of Prof. Nathan Smith, of Hanover, N. H.

1839. CALVIN HAZEN GUPTILL, M. D., was born 24 July, 1814, in North Berwick, Me.; was graduated in 1839, from Dartmouth Medical College, and settled in practice in Dover, in the same year; left Dover in 1842, and settled in Eliot, Me., where he has practiced continuously since. He has been elected for twenty-five successive years a member of the School Committee of the town of Eliot.

1840. MOSES FRENCH COLBY, M. D., was graduated from Dartmouth Medical College in 1821; practiced several years in Ossipee, N. H.; left Ossipee in 1840, and settled in practice in Dover; left Dover, in 1848, and returned to Ossipee, and died there. He was a Fellow of the N. H. Medical Society, and a member of the Strafford District Medical Society.

1840. CALVIN CUTTER, M. D., was born in Jaffrey, N. H., May 1, 1807; attended medical lectures at Bowdoin, Harvard and Dartmouth Colleges, and was graduated in medicine from Dartmouth, in 1832; began practice in 1832, in Rochester, N. H., and remained there one year; left Rochester, in 1833, and became the private pupil of Valentine Mott, M. D.; settled in Nashua, N. H., in 1834, and practiced there a few years; again gave up his practice and became a pupil of Dr. McClellan, of Philadelphia; was next in practice in Dover, being in Dover as early as 1840, and as late as 1844. He was lecturing throughout the United States, from 1844 to 1856, on Anatomy, Physiology and Hygiene, and he published a text-book on these topics, in 1847, which had an extensive use. He was mustered into the United States service, in Aug., 1861, as Surgeon of 21st Massachusetts Volunteers; was a Brigade Surgeon in the 9th Army Corps; was wounded at Bull Run and at Fredericksburg. He died, June 20, 1872, at Warren, Mass. His son, Dr. John Clarence Cutter, is on duty in a government hospital in Japan.

1842. DR. ELLIS SWEETLOVE was born in 1807, in Bolton, England; he came to Dover, in 1842, and practiced until his death, which occurred from brain fever, 10 Feb., 1847.

1842. PAUL AUGUSTINE STACKPOLE, M. D., was born in Rochester, N. H.; was a student at Phillips Andover Academy; was graduated from Dartmouth Medical College in 1842; has practiced in Dover since date of graduation; is a Fellow of the N. H. Medical Society, and member of Strafford District Medical Society, and is ex-President of each; is member of Massachusetts Medical Society, and of American Medical Association. He married, 9 July, 1845, Elizabeth, daughter of Charles P. Hills, of Haverhill, Mass. He practiced dentistry, in connection with medicine, for several years; was delegate from the N. H. Medical Society, in 1858, to examine the graduating class of Dartmouth Medical College, and to deliver the address to the same; has served on Board

of Instruction of city of Dover for several years; is an editor of the *Dover Press*.

1844. DRYDEN SMITH, M. D., son of Dr. Daniel Smith, was born 8 Sept., 1822, in Waterborough, Me.; read medicine with his brother, Jefferson Smith, M. D., of Dover; was graduated, in 1844, from the Berkshire (Massachusetts) Medical Institution; began the practice of medicine in 1844, in Dover; left Dover in the summer of 1849, and moved to Biddeford, Me., where he died 25 June, 1868.

1844. ROBERT THOMSON, M. D., was born 10 Oct., 1800, at Alloa, Scotland; was educated at Dollar Academy, Clackmannan county; went to Glasgow University in 1817, and was graduated in medicine, in 1820, from that institution; entered the Royal College of Surgeons, Edinburgh, in 1820, and in 1822 received his diploma from that institution; began the practice of medicine in 1822, in Glasgow; moved, in 1831, to Dundee and practiced there until 1844. While at Dundee, he was one of the surgeons to the Royal Infirmary. He emigrated to America in 1844, and settled in practice in Dover; was a Fellow of the N. H. Medical Society, and a member of the Strafford District Medical Society; and practiced 'till within a few days of his death, which occurred 11 Aug., 1870.

1844. NICHOLAS LEAVITT FOLSOM, M. D., was born 20 Dec., 1815, at Gilmanton, N. H.; read medicine with Drs. Chase Prescott of Pittsfield, Timothy Haynes of Concord, and Josiah Crosby, then of Laconia; attended medical lectures at Hanover, N. H., and at Berkshire, Mass., and was graduated from the latter institution in 1844. He began the practice of medicine in 1844, in Dover; left Dover in March, 1853, and moved to Portsmouth, N. H., where he continues to practice his profession.

1845. DR. ENOCH MACK was born in 1806, in Lyme, Conn.; received his license to practice in 1827, from the Schoharie County Medical Society, of New York; practiced medicine for a few years in Pennsylvania, and then became a preacher; came to Dover, in 1835, and was installed pastor of the Freewill Baptist church, where he preached two years; and was next engaged in editing the *Disciple*, in Dover. He did not practice medicine in Dover until 1845, and was in practice until 1848, when he moved to New York city; was City Missionary in New York for 18 years;

since 1866 has been Missionary at large, his present residence being Catskill Station, Columbia Co., N. Y.

1846. JOHN HODGDON PAUL, M. D., was born in Rollinsford, N. H., 23 June, 1818; attended medical lectures at Bowdoin Medical College, and at Jefferson Medical College, and was graduated from the latter in 1846; began the practice of medicine in Dover, in 1846; practiced dentistry in connection with medicine; was member of Strafford District Medical Society; and died in Dover, Nov. 12, 1858, of consumption.

1846. JEREMIAH HORNE, M. D., son of Jeremiah Horne, and grandson of Isaac Horne, of Dover, was born in Rochester, N. H., 29 Jan., 1816; read medicine with Drs. Richard Russell, of Great Falls, N. H., and Winslow Lewis, M. D., of Boston, Mass.; was member of the Tremont Medical School; was graduated, in 1840, from Bowdoin Medical College; began practice in Lowell, Mass.; came to Dover in 1846, and, with exception of short absences, has practiced there continuously to the present date. He has been Alderman of Dover; was member of the N. H. Legislature in 1861 and 1862; is a member of the Massachusetts Medical Society, and of the Strafford District Medical Society.

1847. CHARLES AUGUSTUS TUFTS, M. D., son of Asa Alford Tufts, of Dover, was born 6 Nov., 1821, and has been a Pharmacist in Dover since 1847; was Vice-President of American Pharmaceutical Association in 1863-4, and its Treasurer since 1865; was member of the N. H. Senate in 1861 and 1862; was graduated, in 1869, from the Massachusetts College of Pharmacy, and was its Vice-President from 1866 to 1876; received honorary degree of A. M. from Dartmouth College in 1870; read medicine with Drs. Martin and Stackpole, and was graduated in 1871 from Dartmouth Medical College; is a member of the Massachusetts Medical Society, Fellow of the N. H. Medical Society, and member of the Strafford District Medical Society; is member of N. H. Historical Society; is member of Board of Instruction of city of Dover. Has been member of Governor's Staff. He married, in 1848, Annie Blanchard Souther, of Concord, N. H. He has never been engaged in the practice of medicine.

1848. ALPHONSO BICKFORD, M. D., son of Thomas Bickford, of Dover, was born 12 Dec. 1817; read medicine with George W. Kittredge, M. D., of Dover, and was graduated, in 1837, from

Bowdoin Medical College; began to practice in 1837, in Durham, N. H.; left Durham, in 1848, and settled in practice in Dover. He was Mayor of Dover in 1861 and 1862; was Alderman in 1866 and 1867; was a Fellow of the N. H. Medical Society; was member and President of the Strafford District Medical Society; was a skillful physician, and had an extensive practice. He died in Dover, 31 Dec., 1869, from consumption.

1848. LEVI GERRISH HILL, M. D., was born 7 July, 1812, in Strafford, N. H.; read medicine with Drs. Webster, of Strafford, Wight, of Gilmanton, and Prof. Mussey, of Hanover, N. H.; was graduated, in 1838, from Dartmouth Medical College; began practice in Salisbury, N. H., where he remained about one year; practiced in Great Falls, N. H., some eight years; came to Dover, in 1848, where he is yet in the practice of his profession. He is member of Strafford District Medical Society, and a Fellow of the N. H. Medical Society, and is ex-President of each; is member of American Medical Association, and honorary member of the Maine Medical Society; has been Alderman of Dover, and has served on School Committee. He married, in 1838, Abby B. Shackford, daughter of Samuel B. Shackford, of Barrington, N. H.

1848. THOMAS JEFFERSON WORCESTER PRAY, M. D., son of Major Moses Pray, of Lebanon, Me., was born 2 Sept., 1819; was graduated, in 1844, from Bowdoin College; read medicine with Dr. T. H. Jewett, of South Berwick, Me.; was graduated, in 1848, from Harvard Medical College; and settled in practice in 1848, in Dover, where he yet adheres to his profession. He is Fellow of the N. H. Medical Society, and member of Strafford District Medical Society, — being President of the former and ex-President of the latter; is a Coroner for Strafford County; was member of the N. H. Legislature in 1858 and 1859; has been President of the Dover Common Council; has served for several years on the Dover School Committee; has been School Commissioner for Strafford County; was delegate in 1863 and in 1878 from N. H. Medical Society to examine the graduating classes of Dartmouth Medical College, and to deliver address to the same. Married (1st) Sarah E., daughter of John H. Wheeler, of Dover, and (2d) Martha A., daughter of Rev. S. S. Matthews.

1849. GEORGE WALKER WOODHOUSE, M. D., was born in 1818, in Madbury, N. H.; was graduated, in 1847, from Bowdoin Medi-

cal College; was in practice in Dover as early as 1849; was a member of Strafford District Medical Society; married a daughter of Prof. Parker Cleveland, of Brunswick, Me.; died in Dover, 3 Nov., 1850, of consumption.

1848. JAMES ELBRIDGE LOTHROP, M. D., son of Daniel Lothrop, was born 30 Nov., 1826, in Rochester, N. H.; read medicine with Jeremiah Horne, M. D., in Dover; was graduated, in 1848, from Jefferson Medical College, in Philadelphia; began the practice of medicine in 1848, in Dover; became a member of Strafford District Medical Society; married a daughter of Joseph Morrill, Esq., of Dover; left the practice in 1849 and became a merchant of Dover.

1854. ABNER HAM, M. D., son of Benjamin Ham, of Farmington, N. H., was born in 1821; was graduated, in 1844, from Bowdoin College; was graduated, in 1847, from a medical college in New York; settled in practice in Rochester, N. H.; moved to Dover, in 1854, and practiced three or four years; moved to Cambridge, Mass., where he died in 1866. He was a member of Strafford District Medical Society, and a Fellow of the N. H. Medical Society.

1855. ANDREW JAMES HALE BUZZELL, M. D., son of Dr. Aaron Buzzell, was born 31 March, 1831, in New York city; he read medicine with Levi Gerrish Hill, M. D., of Dover, and was graduated, in 1854, from Dartmouth Medical College; and began practice in 1855, in Dover. He was commissioned in August, 1862, Assistant Surgeon 3d Reg't N. H. Vols., and on 17 Nov., 1862, was promoted to be Surgeon of the same. While in the army he served as member of Army Examining Board, Brigade Surgeon, Medical Inspector, and Medical Director. He died of typhomalarial fever, 27 March, 1865, at Wilmington, N. C.; his remains were brought to Dover, and were interred with Masonic honors, April 4, 1865.

1862. GEORGE EDWARD PINKHAM, M. D., son of Nicholas Pinkham, was in practice in Dover for a few months in 1862. He is now a physician in Lowell, Mass.

1862. JAMES HENRY WHEELER, M. D., son of John H. Wheeler, druggist, of Dover, was born 17 Sept., 1831; was graduated from the College of Physicians and Surgeons in New York, in 1862, and settled in practice in Dover in the same year. He is a Fellow

of the N. H. Medical Society, a member and ex-President of the Strafford District Medical Society, and a member of the American Medical Association. He was delegate from the N. H. Medical Society, in 1871, to examine the graduating class of Dartmouth Medical College, and to deliver the address to the same. He is United States Pension Examiner. He married Anna D. French, of New York city, Oct., 1862.

1865. GEORGE FRANKLIN FRENCH, M. D., son of John A. French, of Dover, now a physician of Portland, Me., practiced medicine in Dover, for six months, in 1865.

1865. Dr. J. DENHAM HUME, from Halifax, Nova Scotia, practiced in Dover, six months, in 1865. He went to Boston, Mass., and died suddenly a short time afterwards.

1866. MOSES CRAFT LATHROP, M. D., was born 21 May, 1830, in Tolland, Conn.; read medicine in 1849-1852 with Dr. Marshall Calkins, of Monson, Mass., and with Dr. J. M. Nichols, of Worcester, Mass.; was graduated, in 1852, from the Worcester (Mass.) Medical College; practiced in 1852 and 1853 at Meredith Bridge and at Pittsfield, N. H.; from 1853 to 1855 at Lee, Mass.; from 1855 to 1858 at Attica, N. Y.; and from 1858 to 1863 at Algona and Cedar Falls, Iowa. He was commissioned, in 1863, as Assistant Surgeon 19th Reg't Iowa Vols., and in October of the same year was made Surgeon 4th Reg't U. S. Engineers, 25th Army Corps; was mustered out of the United States service in March, 1866, and settled in Dover, where he has practiced continuously to this date. He is a member and ex-President of the Strafford District Medical Society, and is a Fellow of the N. H. Medical Society. He married, in 1853, Elizabeth, widow of Rev. S. S. Matthews.

1866. JOHN RANDOLPH HAM, M. D., son of Charles Ham, and grandson of Ephraim Ham, of Dover, was born in Dover, 23 Oct., 1842; read medicine in 1862 with A. J. H. Buzzell, M. D., of Dover, and attended medical lectures at Bowdoin Medical College in the spring of 1863; read in 1863 with Levi G. Hill, M. D., of Dover, and in the winter of 1863-4 attended medical lectures at Harvard Medical College; read in 1864 with J. H. Wheeler, M. D., of Dover, until August, when he was commissioned by the President, and mustered as Assistant Surgeon 115th Reg't U. S. Colored Infantry; was promoted, and mustered as Surgeon of the same regi-

ment in Sept., 1865; was Medical Purveyor of 25th Army Corps; was mustered out of United States service in March, 1866; attended third course of medical lectures, and was graduated from Bowdoin Medical College in June, 1866; has practiced continously in Dover since date of graduation. He is a member, and for ten years has been Secretary, of the Strafford District Medical Society; is a Fellow of the N. H Medical Society; is a member of the N. H. Historical Society; is a Coroner for Strafford County; and has served four years on the Board of Instruction of city of Dover. He married Emily Caroline, daughter of Gen. George W. Hersey, of Wolfeborough, N. H., 9 Nov., 1871.

1868. JOHN BELL, M. D., son of Gov. Samuel Bell, was born 19 July, 1831, in Chester, N. H., was graduated in 1852 from Dartmouth College, and in 1854 from the University of Pennsylvania, in medicine. He practiced in Kingston and Derry, N. H.; was commissioned in 1861 Assistant Surgeon 5th U. S. Cavalry; served through the War of the Rebellion; came to Dover in 1868, and practiced 'till 1875, when he moved to Manchester, N. H., where he is now in practice.

1870. JASPER HAZEN YORK, M. D., son of John York, was born 27 Feb., 1816, in Lee, N. H.; was a student at Phillips Exeter Academy; read medicine with Calvin Cutter, M. D., of Dover; was graduated in 1843 from Harvard Medical College; began practice in 1843 in South Boston, Mass.; left Boston in 1870 and settled in practice in Dover; died in Dover, 7 April, 1874, from chronic ulcer and stricture of the duodenum.

1871. JOHN GILMAN PIKE, M. D., son of Nathaniel G., grandson of John, and great-grandson of Rev. James Pike, of Somersworth, N. H., was born in Somersworth, 17 Aug., 1817; studied in the class of 1845 in Bowdoin College for three years; left the college in his senior year and began to read medicine; was graduated from Bowdoin Medical College in 1847, and commenced practice in Durham, N. H., in the same year; left Durham, and settled in Salmon Falls, N. H., in 1848; left Salmon Falls in 1868, and moved to Boston, Mass.; left Boston in 1871, and settled in Dover, where he now resides. He married (1st) Mary Yeaton Cressey, of Gorham, Me., and (2d) Mrs. Alice (Ham) Horne, of Dover, in 1867.

1875. WILLIAM PARKER SYLVESTER, M. D., was graduated in 1847 from Bowdoin Medical College; came to Dover from Durham, N. H., in 1875, and practiced 'till 1878; he now lives in Sherburne, Mass., retired from practice.

1878. EDWARD SWETT BERRY, M. D., was born 29 Oct., 1844, in Pittsfield, N. H.; read medicine with John Wheeler, M. D., of Barnstead, N. H.; was graduated from Dartmouth Medical College in 1870; began practice in 1870 in Candia, N. H.; moved to Dover in 1878, and is engaged in practice. He is a member of the Strafford District Medical Society, and also of the Rockingham District Medical Society, and is a Fellow of the N. H. Medical Society. He married, in 1871, Florentine A. Elkins, daughter of Jeremiah Elkins, Esq., of Laconia, N. H.

1878. ARTHUR NOEL SMITH, M. D., son of Samuel M. Smith, M. D., of Baring, Me., was born 29 July, 1851; read medicine with his father, and brother (J. R. N. Smith, M. D., of Pembroke, Me.); was graduated in 1872 from Bowdoin Medical College; began practice in 1873, in Silver City, Idaho; left Idaho in 1878, and settled in Dover. He is in medical partnership with Dr. Chamberlin.

1878. DAVID TAYLOR PARKER CHAMBERLIN, M. D.. was born in Lebanon, Me., 21 Nov., 1846; read medicine with his uncle, Dr. Parker, of Farmington, N. H.; was graduated in 1872 from Bowdoin Medical College; practiced from 1872 to 1878 in Farmington, N. H.; settled in Dover in 1878, and is in partnership with his classmate, Dr. A. N. Smith. He is a Fellow of N. H. Medical Society, and member of Strafford District Medical Society.

1878. CHARLES ALBERT FAIRBANKS, M. D., son of Albert A. Fairbanks, of Dover, was born 17 Dec., 1849; was graduated from Scientific Department of Dartmouth College in 1871, and was a draughtsman for next three years; was Station Agent of D. & P. R. R. in Dover, in 1874; read medicine in 1874-5 with John R. Ham, M. D., in Dover; was student in Harvard Medical College in 1875-77, and was graduated from the same in 1877; practiced six months in Fall River, Mass., and settled in Dover in 1878. He is a Fellow of the N. H. Medical Society, and a member of Strafford District Medical Society, and is a Coroner for Strafford county.

1878. WILLIAM BARKER MACK, M. D., son of William F. Mack, was born in Bellows Falls, Vt., 26 Jan., 1852; read medicine with Dr. S. H. Currier, of Norwich, Vt., and with Prof. C. P. Frost, of Hanover, N. H.; was graduated from Dartmouth Medical College in 1877; settled in practice in Dover, in 1878.

MEDICAL TESTIMONY.

BY L. G. HILL, M. D.

Mr. President and Gentlemen :

I wish, without occupying much of your time, to call the attention of the members of this society to a matter which, it seems to me, affects the honor and dignity of our profession. I refer to opinions and testimony in contemplated and existing lawsuits.

It often happens that physicians are called into our courts to give testimony, medical or surgical, as experts or otherwise, and it is sometimes exceedingly mortifying to notice the contradictions or conflicting statements of physicians on opposite sides of a case, and the want of clearness in apprehension and declaration in regard to facts presented or sought after, and, I have many times heard derogatory remarks made by persons in various walks of life because of such clumsiness and confliction. True, a doctor is sometimes called into court without notice or knowledge of the case in which he is called to testify, or any particular circumstances connected therewith, until he goes upon the stand. He has no time to learn the history of the case, to read up authors or his own notes, and if there is opportunity, he usually avoids conference with his medical brethren, and especially with those called upon the other side.

The lawyer, laboring assiduously to advance the cause or make the best showing possible for his client, calls upon a physician for facts or suggestions for his side of the case, and wishes, for his own success and the interests of his client, to make prominent any facts favoring his side of the case, and obscure all militating against him.

The physician thus called seems at once and almost involuntarily enlisted in sympathy upon that side, and endeavors with the attorney to make all show that way. He gives facts, cites cases, makes suggestions and manifests interest sometimes as much as if he were attorney or party in the suit.

Now, while it may be natural that he should feel some degree of sympathy for the party calling him, and possibly cannot avoid feeling an interest in the side upon which he testifies, the medical witness should allow nothing to swerve him a hair's breadth from the exact facts of the case before him. He should divest himself, so far as possible, of sympathy or prejudice, candidly weigh all the facts attainable, and deliberately make up his opinion and give it to court, jury or other parties seeking it, as concisely and clearly as possible.

He must see clearly himself, or he cannot make others do so; and if he inclines from the exact truth, he is quite sure to stumble.

But medical witnesses sometimes appear to disadvantage from the fact that lawyers, who interrogate, know so little of the subject themselves. They don't know how to put questions, wont allow explanations, but insist upon direct answers to interrogatories as put by them, and thus occasion some embarrassment of the witness and fail to obtain what they want and might easily reach if they knew how.

An attorney, however earnest and honest, but not acquainted with anatomy, physiology, practice of medicine or surgery (and they do not profess to be), could put questions so as seemingly to confuse or cause to hesitate almost any physician or surgeon, however competent, while interrogatories properly arranged and put would receive full and clear answers from the same men.

But another and more important point to be mentioned is a want of clearness and comprehension of all the facts in the mind of the medical witness.

A physician whose opinion is asked, either upon a trial or preliminary examination, should candidly, and without haste, carefully examine the case as presented, and unbiased make up his mind and be able to give reasons clearly for the opinion formed. It would be well if physicians or surgeons could have longer notice, and be made acquainted with the circumstances of the case when they are to be called as witnesses. Often, when a suit is in contemplation, a doctor is consulted, and upon slight or hasty examination gives an opinion, which upon a more thorough investigation or upon fuller reflection he would not give, and it is barely possible that there are some men in our profession, who, having given an opinion, adhere to it against their own maturer judgment.

In illustration of what I would impress upon professional brethren, two cases are here cited, of which I had personal knowledge, and in which several medical men gave testimony, very conflicting, not thus winning laurels for our profession, but much discredit:

Case 1st. Mr. ——, a blind man, while being led across a street, in a neighboring city, put his foot into a hole, and extricated it, as was said, with some difficulty, the foot being strained and giving him some trouble, but not enough to require the attendance of a surgeon. After a time, and *somehow*, he came to think he would sue the city for damage to his limb.

He went into another county and consulted an attorney, who undertook the case after two good surgeons had given an opinion that the scaphoid had been, and was still, dislocated.

The trial came on, the above named surgeons testified to the dislocation as shown by the unusual prominence of the tubercle of that bone. These were followed by several surgeons, who testified as confidently that there was no dislocation, inasmuch as there was no anomalous condition or position of the body or other extremity of that bone, as there must have been if the tubercular end had been displaced or elevated to occasion the prominence. Those who denied the dislocation, declared the tubercle natural, and produced half a dozen specimens, no two alike, some more and some less prominent.

Notwithstanding this showing, the jury seemed to think the man was hurt, the city able to pay, and awarded a liberal verdict to the plaintiff.

Case 2d. Mr. ——, in driving along a highway, in a neighboring town, passed over a bridge, and immediately thereafter his horse took fright and backed over an embankment, capsizing horse, carriage and rider, injuring the man somewhat, especially about the hip, but a surgeon who was called and who saw the man several times, could not detect any fracture. Subsequently the limb appeared to shorten, until the heel of that side was elevated, when the man was standing erect, two or three inches from the floor, and an opinion given that the thigh was broken, and the shortening a result of such fracture.

The town was sued, and at the trial three reputable surgeons testified that, in their opinion, the limb was fractured and permanently shortened.

Two others were called on the other side, and gave an opinion that there was no fracture, that the limb was as long as its fellow, that the apparent shortening resulted from muscular contraction and elevation of that side of the pelvis, and that the deformity would be lessened or wholly removed. (Some of you may know how difficult it would be to overcome such a shortening while a lawsuit was resting under the heel.)

The man recovered a verdict of two thousand dollars, and, what is better for him, a good limb.

I have seen this man often during the last two or three years, but have discovered no lameness, and know that his heels, boots and feet are level.

The above are only fair samples of many other similar cases; and, gentlemen, with such a state of facts, how can it be otherwise than that the profession should be brought into discredit.

The object of the foregoing is to avoid that dishonor; and while it may sometimes be necessary to call a physician or surgeon to establish certain medical or surgical facts, you will please allow me to suggest that we shun attendance upon courts whenever we can reasonably do so, and when called upon for an opinion, whether upon the trial of a suit or preliminary examination, we avail ourselves of all means at our command to become familiar with the facts in the case, divest ourselves of prejudice or partiality, candidly weigh all the circumstances, and give testimony for which we can furnish good reasons.

AN EPIDEMIC OF DIPHTHERIA.

BY. I. A. WATSON, M. D.

Mr. President and Gentlemen :

On the 12th day of May last a case of diphtheria made its appearance in a family of means and respectability in the village of Groveton. Everything around the premises was neat, clean and orderly, and the hygienic and sanitary surroundings were above the average. The patient was a boy about eight years of age. There was no other case of diphtheria in town, and no connection between this and any other case could either directly or indirectly be traced. The boy was attending school at the time of the invasion of the disease, and was in excellent health.

On May 19th, seven days after the onset of the first case, a little girl of about ten years of age, was taken with the same disease. This patient lived nearly a mile from the first case, a little out of the village on a farm. Here the sanitary conditions were also good, though the case was of a most malignant character, and the patient died on the sixth day after the invasion of the disease. This little girl was also attending school.

May 21st. Another case remote from the other two, and in no way exposed to the former cases, was attending school.

May 22d. Two new cases in different localities, remote from all former cases—both scholars.

May 23d.	One new case—a scholar.		
" 24th.	Five	"	"
" 25th.	"	"	"
" 26th.	Six	"	"
" 27th.	"	"	"
" 28th.	Two	"	"

By this time the whole village was thoroughly infected, and the disease was no longer exclusively confined to school children, but attacked others in the family that already had a case, and in many

instances seeming to spring up independently of any connection with any case, and without regard to individual sanitary conditions.

ORIGIN.

It will be remembered that the first twenty-five cases were from among children attending school, and that their homes were in many instances quite widely separated,—that as many as twenty-two cases occurred in the short space of ninety-six hours! What, then, must be the conclusion arrived at, even by those whose philosophy does not extend outside the lappet of their purse?

No one can doubt for a moment that these cases originated from a common source, and nowhere else could a common origin be found but at the school-house or its immediate vicinity; so a most careful examination was instituted, with the following results:

The house is located about 15 or 20 rods back from the bank of a mill-pond that is made by a dam in the river, and in elevation but a few feet above high water, and at the foot of a small mountain. At the east end of the house is a boggy piece of land which is constantly wet, stagnant water standing within twenty feet of the house. This bog to a considerable extent is made up of vegetable matter which has, in time past, been washed down the side of the mountain, and is full of fallen trees, with some small bushes, giving so much shade that it is never dry. The melting snow and the rains of spring formed many little water-courses down the hillside, which the school children had in many places dammed and fashioned after their childish tastes, and one in particular ran down directly against the stone underpinning of the house and made its way underneath the house. The trench wall, or rubble, upon which the underpinning set, being banked by earth, formed a basin underneath the house which held quite an amount of water, the overflow of which ran out near the front door of the house, which, of course, did not occur only during and immediately after a rain. So, unknown to any one, there was a pond of water underneath the two large school-rooms, which during the interval between rains was a pool of stagnant surface water! Directly back of the house about twenty feet, in close connection with these little water channels, and bordering upon the swampy land just mentioned, stood two privies, the excrement of which had not been removed for nearly two years!

Who surmises that another factor can be added to this already most deplorable condition? But let me complete the story: The dam in the river made the pond above mentioned, some ten acres, I should judge, larger than otherwise would be. At the head of this pond, some eighty or a hundred rods above, stands a large tannery, and a saw-mill which cuts out several millions of lumber each year. The sawdust from this mill and the refuse from the tannery are emptied into the pond, and have been for years. About the time this epidemic commenced, the dam to this pond was undergoing repairs, so the water was drawn off, leaving a large bed, made up of sawdust, tanbark, fleshings, &c., which had been accumulating for years, exposed to the sun and air. Quite often at night the gate was shut, allowing the pond to fill, and in the morning again drawn off. Thus this large surface of several acres was thoroughly soaked at night, drawn off in the morning, and exposed to the rays of a hot summer sun during the day. This occurred many times during the months of June, July and August, and the stench that would arise was almost intolerable. All sides of this pond were inhabited, and upon its very banks stands some of the best residences of our village. I have here given, as briefly as possible, the sanitary condition of our village at the commencement and during the epidemic under consideration. If this was the only instance on record of defective drainage, foul privies, decaying animal and vegetable matter and filth in general, producing diphtheria, I should not even then hesitate to assign as the cause the conditions which I have herein enumerated, so positive to me seems the evidence. On no other ground or theory can the origin of this epidemic be explained.

There was at that time no diphtheria in any of the surrounding towns; there was no case of the kind within the limits of Northumberland; not one of the school children, or any resident of the village, had been away and returned; so it was not imported; and yet twenty-five scholars were almost simultaneously stricken with this fearful disease. A common origin must be undoubted. Eliminating, then, considerations which might, under other circumstances, have been factors, I would ask you what remains as a cause? The answer is given in one small word—a word to which should be attached the death emblem of the skull and cross bones,

as a warning to every community, every family, and every individual—the word filth.

Facts like these should not need further corroboration; but untold numbers of the sweetest and fairest of God's children will yet be cut off, and many a parental heart writhe in bitter anguish, before a heedless public will fight the monster which could be so readily conquered.

The epidemic abated in August, and then commenced typhoid. Aside from a few that had the disease severely, many were complaining of chills, loss of appetite, fatigue, etc., in fact approaching a typhoid condition. At this juncture the gates to the dam were shut down, and the pond filled. Then, indeed, as by the wand of magic, was the destroyer conquered, and our village almost at once became free from disease. Such an experience should teach a lesson to every community and every family.

TREATMENT.

One of the characteristics of this epidemic was the sudden invasion of the disease, in every case, and the intense fever at the onset. In an hour or two from the time the patient was feeling perfectly well I would find the case as follows:

Pulse from 120 to 150; temperature from 102° to 104°; no complaint of sore throat, and upon examination no membrane, but a reddish mottled appearance of the tonsils and posterior part of the throat. In a few hours afterwards a fully developed membrane could be seen.

In a few of the first cases I gave sedatives while the high fever lasted, but soon discarded their use, as those patients to whom I administered sedatives did not seem to get along so well after the fever stage had passed as those that were otherwise treated. Latterly, after a close observation of many cases, I have become convinced that this high fever was simply excessive molecular metamorphosis established in the interest of elimination; hence, the injurious effect of sedatives.

Every case that I treated commenced in this manner, differing, of course, in degree. In the mildest cases the exudation covered both tonsils, and from that in severity up to as malignant cases as were ever witnessed. Along with this epidemic were probably 40 or 50 cases of inflammatory sore throat, of which I have made no

record. I have recorded in this report no case not showing a well developed membrane, and being unquestionably well developed diphtheria, for I believe the value of a report of this kind is worthless unless based upon absolute facts, and I deprecate the practice of recording *tonsillitis* as diphtheria, as I have known to be done. Neither let it be said after a statement of mortality is rendered that the epidemic was a mild one. The fact that it was a very severe one can be attested by medical men, whom, with pleasure, I invited to see my cases, as well as old and efficient nurses.

Out of the 114 I treated 110 from the onset; two of the remaining four I took from homœopathic hands after the cases had assumed an unfavorable aspect. The remaining two, one a fatal case, I did not see at all. The two that had been under homœopathic treatment survived only a short time. The two cases should rightfully be deducted from the mortality table under my treatment. One other of my fatal cases was an idiot, about five years of age. I only regret in this case that I did not absolutely refuse to treat it. For a fair showing this case should also be erased from the table. Deducting these three cases, and I think you will all admit its justice, the record stands as follows, under my treatment:

Number of cases, one hundred and ten (110).

Number of deaths, eleven (11).

Out of the four remaining cases of this epidemic, two were treated by regular physicians, with one death. The other two by homœopaths, and both died.

I do not make this statement to disparage the treatment of others, and compliment my own, but to make the record complete.

Only the outlines of the treatment can be given, for the varying features of each case demand a variation in the treatment, and as time will not admit of a detailed statement of individual cases, I shall give you only the general principles of the treatment I followed. Concerning sedatives, I have said, in my opinion, they were injurious, and gave my reason for that opinion.

First of all you cannot treat a case successfully without strict attention to hygienic and sanitary surroundings. Be sure that the patient has an abundance of fresh air. This I regard as of the most vital importance, and to a close observance of this rule, which I must say was dearly bought, I believe I owe much of my success in dealing with this epidemic.

To give an illustration: A French family, living in a tenement house, had a girl ten years of age prostrated with the disease; case moderately severe. Room small, and door and windows kept closed, for fear the patient would "take cold." Could not induce them to keep room ventilated. Patient remained in an almost stationary condition for several days and died. Medical treatment well attended to. Second case in same family, a boy six years old; condition the same, course followed the same, result same. Third, fourth and fifth cases in same family followed, with disease, to all appearance, more severe than first and second cases. Under threat of breaking glass out of the windows, and leaving them to their own fate, I succeeded in keeping windows open day and night. Result in all three of the cases, recovery.

Again, in an American family of means, six children and two adults were stricken. Only one of these cases presented an unfavorable appearance at the onset. Nothing could induce them to keep the windows open, and having poor nurses no attention was given to cleanliness. Rooms kept close for fear of "taking cold." Result, five of the children died. Now, I should not regard this of so much importance had not these seven cases, with one exception, been in the earlier stages, among the mildest of the epidemic. I made it a rule to keep either windows or door open night and day, and not one instance occurred of "taking cold." Not only should attention be given to an abundance of fresh air, but absolute cleanliness in all the appointments of the sick room should be observed. The bed clothing should be kept clean, as well as the patients, and all excrement and expectorated matter constantly disinfected. There should be no carpets or mats upon the floor, and a sponge wet with water in which there is carbolic acid, should be used, if need be, to keep the floor and walls clean.

If I have laid, what to you seems unusual stress upon this subject, it is because I believe I have seen its value demonstrated by, at least, the sacrifice of six bright, active, lovely children.

Concerning the remedies which I used I regard the mur. tr. of iron as *the* sheet anchor. My method of giving it is as follows, for a child 10 or 12 years old:

℞ Tr. Ferri Chlor. ʒ ij.
Aquae Puræ ℥ iv.—Mix.

S. Teaspoonful every half hour—varying, of course, as my judgment would indicate.

Between each dose of the iron, a teaspoonful of the saturated solution of chlorate potassa.

The frequency of dosing will here be noticed, and I believe it very essential. In this disease constant vigilance is the price of life.

In a few of the most putrid cases I sprayed the throat with lime water, in which there was carbolic acid.

In the early stages of the epidemic I used various remedies, including the sulpho. carbolate of sodium, but found nothing that equalled the iron treatment. Tilden's Diphtherine I gave a fair trial without commendable results.

For nourishment I used almost exclusively cold milk, sometimes iced, and sometimes a little lime water was added. This diet was well tolerated and allowed to any extent the patient desired.

I used no cathartics, and in nearly all cases where a laxative was required I gave mecurial chalk, never sufficient to produce a sore mouth, yet nearly always observing its salutary effect on the mucous membrane.

In no instance did I sponge or swab the throat, or pull off detached portions of membrane, as I regard such procedures extremely hazardous to the patient.

Concerning the use of alcoholic liquors, I used them only in cases of extreme prostration. The tolerance of alcohol was, in some instances, very great, but I cannot say that I saw the accomplishment of much good by its use.

Paralysis, blindness, deafness and anaemia followed convalescence in several instances, but with total recovery in every case excepting one.

In conclusion, gentlemen, I have only to say that a complete history of this epidemic would make a large and valuable volume; but I trust these bare outlines will be a source of information to some, and call forth a discussion that will be interesting to all.

A LECTURE INTRODUCTORY

To the Eighty-Third Course of the New Hampshire Medical Institution, at Dartmouth College, July 31, 1879,

By OLIVER P. HUBBARD, M. D., LL. D.,

Professor of Chemistry and Pharmacy.*

Gentlemen:

It having fallen to me in turn to give the lecture introductory to our annual course of instruction, I offer you such brief notes as the limit of the hour permits, upon a subject of real and permanent importance to us all—The Origin of the New Hampshire Medical Institution.

This school has a history and a career as honorable as any. Its early instructors were eminent men—faithful and laborious in their day and generation, who blessed mankind. It is one of the oldest medical schools in this country, there being now but two of earlier date;† its courses of instruction have never been interrupted, and it has every year sent forth its graduates to extend its reputation and influence.

It was organized in the last century—so long ago that the reminiscences of its early history and of its eminent founder are faint, and fast passing away, and on this account my colleagues have more than once requested me to prepare a memorial sketch of the school for an occasion like the present.

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* This lecture was read before the New Hampshire State Medical Society at their semi-annual meeting, at Hanover, N. H., Sept. 17, 1879, and a copy was requested for publication in their Proceedings.

† That of Harvard College, 1783, and of the University of Pennsylvania, 1791. The College of Physicians and Surgeons, of New York, 1807, is fourth in age (N. S. Davis, M. D., Contrib., &c.), and has its 73d annual course Oct. 1, 1879.

In compliance with this request, I have attempted, with the aid of some scattered, fragmentary documents,* and communications from a few surviving friends and pupils, to furnish a concise account of the men† who were chiefly concerned in its founding, and in giving it character and reputation during the first forty years of its existence—from 1797 to 1837.

Those persons, who as pioneers of important enterprises, or as founders of useful and valuable institutions, have conferred permanent benefits upon the country or a community, deserve to have their labors commemorated and their memory kept green—at least in the institutions they have established.

The preparation of this sketch has afforded me great pleasure, and has impressed me with a deep sense of the value and unselfishness of their lives and of the weighty obligations laid upon us, their successors in office, to emulate their zeal and devotion; and upon you, young gentlemen, to follow in their footsteps, that by a patient continuance in well-doing you may reap their reward.

To weigh rightly the events of early times and the motives that gave rise to them, we must, as far as possible, place ourselves in the circumstances of the actors.

Before the War of the Revolution, and as early as the French war, so called, these regions were known and had become attractive to many enterprising inhabitants of the older provinces of Massachusetts and Connecticut, who for various reasons sought here a new home.

Townships had been surveyed and divided and proprietors' rights offered for sale in all the older settlements. By the immigration of some of their best citizens and families there was a

* The most important are "An Eulogium on Nathan Smith, M. D., late Professor of the Theory and Practice of Physic and Surgery in the Medical Institution of Yale College, pronounced at his funeral by Jonathan Knight, M. D., Professor of Anatomy and Physiology. New Haven, 1829."

"An address occasioned by the death of Nathan Smith, M. D., First Lecturer in the Medical School of Maine, at Bowdoin College, by William Allen, D. D., President of Bowdoin College. Brunswick, 1829."

These will be freely quoted as Prof. K. and Pres. A.

† These were Nathan Smith, Lyman Spalding, Cyrus Perkins, Reuben D. Mussey, Daniel Oliver, James F. Dana, Usher Parsons, Benjamin Hale. A notice of Dr. Smith only was read to the New Hampshire Medical Society, and of the others to the class in successive lectures.

transfer to these new regions of the same powerful energy which had characterized the early English settlers, with the added experience of one hundred and fifty years.

They were at times exposed to the hostile incursions of the Indians from the north, and always had to encounter the difficulties and deprivations attending the subjugation of a heavily wooded country, whose magnificent forests indicated the strength of the soil beneath.*

Rev. Eleazer Wheelock,† a distinguished and benevolent clergyman, had, since about 1752, conducted at Lebanon, Conn., a private charitable enterprise for the education of Indian youth, called from an early benefactor‡ "Moor's Indian Charity School."

This school he desired, for its greater usefulness, to remove to a favorable locality nearer the Indians, and also to found a college in connection with it, for general education in the new country.

His intentions and inquiries were widely published, and attracted much attention, and he received liberal offers of land and privileges from Pennsylvania, New York, Massachusetts and New Hampshire.

The offer from New Hampshire seemed the most advantageous, and was accepted—large grants and gifts of land from the Governor and individuals were secured—a liberal charter for "Dartmouth College" was obtained from the Honorable John Wentworth, Governor of the Province, in 1769,—and late in the autumn of 1770 President Wheelock came with his family and pupils and a few settlers, cleared off the forest from some six acres, where is now "the Common" of Hanover, built their log cabins in the wilderness, organized the college, with its four classes under their several tutors, and laid the foundations of a civil and religious society whose line has gone forth into all the earth. The two institutions grew apace, and the college soon became a centre of light and knowledge to the surrounding region.

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* The pines at Hanover were from 250 to 270 feet high.—Life of Wheelock.

† Graduate of Yale, 1733, and the first "Scholar of the House" on the "Berkeley Fund," S. T. D. Edinburgh Univ., 1767, born at Windham, Conn., Apr. 22, 1711, died at Hanover, Apr. 24, 1779, and his son, Col. John Wheelock, succeeded him and presided 36 years. He was great grandson of Ralph Wheelock, of Shropshire, in England, a graduate of Clare Hall, Cambridge, 1626, who came soon after to Dedham and Medfield, Mass.

‡ Joshua More, who gave "about two acres of pasturing and a small house and shop" in Lebanon.

The Indian school, by reason of the removal and fading away of the Aborigines, has now nearly vanished, while the college, with its several departments, holds rank among the first in our country.

We, of this generation and of this school, have abundant cause to remember this resolute, far-seeing, eminent founder, who planted the germ of the vigorous stock upon which within thirty years was to be engrafted by a fellow-worker, a bud of a kindred species of intellectual fruitage—even the New Hampshire Medical Institution, whose eighty-third course of lectures opens today—just one hundred years from the death of President Eleazer Wheelock, and fifty years from the death of Nathan Smith.

The history of this school begins and during all its early years is identified with the life of Nathan Smith, its founder and supporter.

The tide of emigration, about the time of Wheelock, had brought from Rehoboth, Mass., his parents and family, who had settled in Chester, Vermont, at the eastern foot of the Green Mountains. This son was born at Rehoboth, Sept. 30, 1762. His father was a respectable farmer of moderate pecuniary resources.

His youth was passed in the usual routine of a farm life, with the stimulating amusements of a new country, * hunting and fishing, of which he was fond in mature life, with only the ordinary means of education in the district schools in the winter, and the additional discipline of teaching at times himself, and he made good use of his opportunities.

Happy is the man who has, in his youth in the country, become familiar with the seasons and their occupations, from seed time to harvest, and with the no less manly and invigorating pursuits of the winter; who knows all the shrubs and the trees of the forest, and the streams that water them, and their various inhabitants; who has observed the laws of life and has developed a true humanity by his kind and faithful care of domestic animals, and a sound judgment from his varied experience.

I do not know a better discipline for the training of boys, physically and morally, thereby securing that most desirable, indispensible equilibrium of forces, styled the "mens sana in corpore sano." Very few incidents of Smith's early life have come down to us.

* "A propensity or taste, which found its gratification amongst the wild fowl of Casco Bay," when lecturing at Bowdoin.—Pres. A. p. 9.

When still a youth, near the close of the Revolutionary War, he served with the Vermont militia,* who were stationed on the northern frontier to protect the inhabitants against the incursions of the Indians, in which service he encountered the risks of Indian warfare and the hardships incident to this life in the wilderness, in common with thousands of the inhabitants.

We may presume that young Smith had developed marked traits of character, patience, courage, industry, perseverance, self-reliance and integrity, which, under genial and favorable circumstances, were to give him a decided superiority over his fellow men; but surrounded by this very limited horizon or environment, there seemed little chance for him to show what he might become in changed conditions.

We have all observed how an unexpected, and it may be a seemingly trivial incident, may give a new direction to and change the purpose of a whole life.

Such a new direction was given to Mr. Smith's career when he was about twenty-one years of age,† by his being present accidentally, or shall we not say Providentially, when Dr. Josiah Goodhue, of Putney, Vt.,—for many years the most celebrated surgeon in this upper portion of the valley of the Connecticut—performed an important surgical operation at Chester, Vt.‡ He watched it with intense interest.

By what mental process or sudden illumination he was inspired he probably could not have told, but he was "penetrated with a desire to know more of a subject so wonderful and novel as the structure of the human body."§ The surgeon seemed to him a ministering angel of comfort, and to become a student of medicine was his highest wish.

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* "Vermont conducted its military operations during the war independent of the United States."—Noah Webster's Am. Selections, 3d part, 122 ed., 1793.

† Prof. K., Pres. A. and Dr. N. R. Smith in Preface to "Med. Essays," by his father, all say he was now "24 years old," but as he was born in 1762, and he states in his Essay on Typhus Fever that he began practice at Cornish in 1787, when 25 years old, and allowing one year with Mr. Whiting and three with Dr. G.—4 years—he could have been only 21 years old when he saw the operation.

‡ Personal communication by Dr. Twitchell, of Keene, to his student, Dr. ——, of Springfield, Vt., and by him to me, Hanover, Sept. 17, 1879.

§ Silliman, Yale Book.

He requested Dr. Goodhue * to receive him as a pupil. The doctor inquired as to his previous course of life, and what were his acquirements.

He replied, "Until last night, I have labored with my hands during my life." Dr. Goodhue told him kindly that he was not in the habit of receiving students who had not some adequate preparatory education, giving him as the reason that the profession there was in a low state, and that to elevate it in reality and in the public estimation, only young men properly qualified should be encouraged to engage in it.

He advised Mr. Smith to study with some good instructor till he was qualified to enter the Freshman Class of Harvard College, and he would then receive him as a pupil. Nothing daunted by this postponement of his request and the condition imposed, he at once placed himself under the tuition of Rev. Mr. Whiting, of Rockingham, Vt., till the required condition was fulfilled. He then studied with Dr. Goodhue for three years. The intimacy thus commenced between the faithful and judicious instructor and the zealous and grateful pupil, ripened into a strong and lifelong friendship—Dr. Goodhue dying a few months after Dr. Smith. †

In the "Life of Dr. Amos Twitchell by Dr. H. I. Bowditch," pp. 28–30, is the following account of Dr. Goodhue's operation, &c., given by Dr. Perry, of Boston, to Dr. B., and received by Dr. P. from Dr. Goodhue himself:

Young Smith was a teacher of the adjacent district school, when it was rumored that the important operation of amputation of the thigh was to be performed by Dr. Goodhue.

The village was alive upon the subject, and many gathered at the house of the patient, apparently attracted by simple curiosity. When all was prepared, Dr. Goodhue not having sufficient medical assistance, asked of the assembled company whether any one would hold the limb that was to be taken off. Immediately a

* Dr. G. removed from Putney to Chester, 1803, to Hadley, Mass., 1816. Was President of Trustees of Berkshire Medical College, died in 1829, aged 70, at Keene, N. H., when visiting his daughter, wife of Dr. Amos Twitchell. Operated by trepanning 40 and more times, strangulated hernia 30, first who amputated at shoulder joint in New England.—Dr. S. W. Williams, Address Berkshire Med. Inst., Nov. 20, 1829.

† This account from Prof. K.

strange and rather ungainly backwoodsman-looking youth stepped up boldly and offered his aid.

Dr. Goodhue was struck with the apparently intense interest that he took in the proceedings, and with his unflinching steadiness of nerve. Smith even tied the arteries as Goodhue took them up, and did so without tremor.

After all was finished and most of the villagers had left, the youth still remained, fixed on the spot, with his hands in his pockets, apparently in deep thought. Suddenly he exclaimed, in Yankee phrase and tone, somewhat as follows: "Look ye here, I think I should like to study medicine with you. I am the teacher in your (the?) district school, and after my term has finished, I'll begin."

Dr. Goodhue scanned him well, and answered, "Stop, young man, not so fast, let me see what you know." Finding that he was deficient in his preliminary education, Dr. Goodhue stated his opinion and the youth left. The doctor never thought of the subject until many months afterward, when an unknown individual appeared suddenly at his house, with his pack on his back, apparently prepared to stay. "Well (cried the stranger), I have come back to study with you, but you must let me earn my board, for I have spent all my money in 'fitting,' as you told me, for college."

An explanation soon took place, and Dr. Goodhue perceiving the qualities possessed by his extraordinary companion, generously offered him a home and medical tuition, while the youth on his part was to assist by performing any manual labor that might arise in the country physician's family.

In 1787,* Dr. Smith, now twenty-five years of age, began practice at Cornish, N. H., though without any diploma.

After about two years, he became so conscious of the deficiency of his education, and of how much there was yet to be learned, that he determined again to become a pupil, and for this purpose went to Cambridge and renewed his studies, by attending the lectures of Dr. John Warren on Anatomy and Surgery, Dr. Aaron Dexter on Chemistry and Materia Medica, and Dr. Benjamin Waterhouse on Theory and Practice, of the Medical Department,†

* "Med. and Surg. Memoirs," p. 45.

† Organized in 1783. These Professors constituted the Faculty, and all received the degree of M. D., in 1786.

to which he added those of Professor Samuel Webber* on Natural Philosophy, in the College; which was probably his first course of lectures.

At the close of the term he read an "Inaugural Dissertation" on "the Circulation of the Blood," which was received with high approbation, and at the request of the Faculty was published.

At the Harvard Commencement in 1790, he took the degree of M. B., the only one in a class of four,† and he returned to Cornish with increased knowledge and zeal, where he continued to practice for the next six years.

The crude condition of the profession in New Hampshire and Vermont, already well known, was now more than ever obvious and painful to him, but as he had secured for himself a considerable eminence, why not selfishly enjoy the benefit.

His whole life of self-sacrifice and devotion to his profession showed that he had no such element in his character.

There were at this time but three schools of medicine in the United States—two of them in Philadelphia and New York,‡ and one at Cambridge.

To attend either of the first two was entirely out of the question, and never thought of by students of this region, and on account of poverty almost none could go to Cambridge for medical instruction.

It was plain, therefore, that the great majority of the students of medicine in New England were unable to avail themselves of the advantages of a scientific education.

It was the universal custom for students to become regularly apprenticed§ to some retired "army surgeon," or skillful practitioner, for a term of three or four years, during which the preceptor was entitled to their services in preparing medicines, attending on the sick, and in such operations in minor surgery as they were qualified for; in return they were to receive thorough instruction in all the branches of medicine.

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* Professor of Mathematics and Natural Philosophy, 1789–1806, and President, 1806–1810.

† One degree of M. B. was conferred in each of the first four years, 1788–91.

‡ The Medical School of Columbia College, discontinued in 1810. Davis, Contrib., p. 23.

§ Davis, Contrib., p. 24.

Dr. Smith determined to attempt a remedy for this state of the profession, by furnishing students the means of obtaining a correct medical education.

He has left no transcript of his thoughts, but in seeking how to accomplish his purpose and to prepare himself for what seemed too great a responsibility to be carried alone, his clear head was ready with a plan, and his energy was equal to its accomplishment —i. e., *he would himself give public instruction in medicine.*

As a stream can never rise higher than the fountain, he saw that he must cultivate himself still more to be fitted for such a duty, and that he must go to the best sources in Europe for that purpose.

Before doing this he made an application to the Trustees of Dartmouth College, which is recorded at their annual meeting in August, 1796, "asking their encouragement and approbation of a plan he had devised, to establish a Professorship of the Theory and Practice of Medicine in connection with Dartmouth College."

His plan was fully approved by President John Wheelock.*

The scheme, novel and far-reaching, was favorably received and discussed by the Trustees, and a resolution complimentary to the character and energy of Dr. Smith was passed, and hope given of future encouragement; but it was "Voted to postpone final action upon the proposition for a year."

Was Dr. Smith discouraged or led to suspend his purpose because of the proposed deliberation? Not at all more than when Dr. Goodhue advised him to special study.

His resolution was taken, and he went straight forward to accomplish his plan, just the same as if the Trustees had adopted or entirely declined his request. He would have undertaken public instruction alone! as later, George McClellan, M. D., when a young physician in Philadelphia, was lecturing to ninety private students.

At this time the University of Edinburgh was distinguished by a corps of eminent medical professors and writers, and was a great centre of medical teaching, taking rank with the universities of Paris, Leyden, and Berlin.

Within about three months from the action of the Trustees as above mentioned, and on his own resources, "Dr. Smith left a practice which had now become lucrative," and went to Edinburgh

* Pres. A., p. 10.

"to qualify himself more thoroughly for this employment, which he probably foresaw was to occupy a large portion of his future life;"* and thus a *second* time he became a pupil after commencing practice. "In December, 1796, he sailed from Boston in the bark Hope, for Glasgow."†

"Early in 1797, he attended the medical lectures at Glasgow, and at Edinburgh under Monro,‡ Secundus, on Anatomy and Surgery, and Black, on Chemistry, for three months, and proceeded in April to London, where he was diligently engaged in the hospitals and with eminent physicians for four months more. He sent home to the college library, from Edinburgh, medical books of the value of £50 sterling, and brought with him apparatus for anatomy, surgery, and chemistry, which he deemed indispensable for commencing the proposed medical institution, and arrived at Boston in the ship Apollo about Sept. 10, 1797.§

A learned American gentleman wrote from London to President Wheelock, concerning him: "With pleasure I acknowledge your letter by Dr. Nathan Smith, who has lately come here from Edinburgh. I am thankful to you for introducing him to me. His manners, conversation, and science entitle him to my esteem and your recommendation to my attention." Just after he left London, in consequence of a letter from President Wheelock to Dr. John Coakley Lettsom,‖ he was elected a Corresponding Member of the Medical Society in London, while in this country he had not yet obtained the degree of M. D. "This diploma, was com-

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* Prof. K.

† Pres. A., p. 10. Doubtless on the 18th, as he writes his wife from "on board the bark Hope, Dec. 17, 1796. We expect a fair wind in the morning and a pleasant voyage." He writes from "Glasgow, Jan. 24, 1797," probably on his arrival.

‡ See Appendix A.

§ Pres. A., p. 10.—The price of passage to Glasgow was $75, to London, $170; he chose the former for economy in going out.

‖ Born in Little Vandyke, one of the Virgin Islands, W. I., 22 Nov. 1744. A "Friend," M. D. Leyden, June 29, 1769,—Thesis, "Observationes ad vires Theæ pertinentes,"—in 1773, with a few medical practitioners, organized "The Medical Society of London." In 1788 gave it a house for its meetings. Business from 1786 to 1800 from £5,000 to £12,000 yearly. Presented Harvard College in 1794–6 some 800 specimens of valuable minerals, "the Lettsom Cabinet," called "the richest and most extensive collection of minerals in the United States," and received an LL. D.—Pettigrew's Memoirs of Life, &c., 3 vols., London, 1817. Appendix B.

mitted to Gen. Ira Allen, who, in his voyage, was captured by a British man of war."*

The first course of lectures was delivered promptly after his return from Europe, in the fall of 1797,† before his election as Professor.

In August, 1798,‡ the plan proposed by Dr. Smith in 1796 was adopted by the Trustees, and he was appointed a Professor, "whose duty it shall be to deliver public lectures upon Anatomy, Surgery, Chemistry, and the Theory and Practice of Physic." A complete schedule was prescribed as to the course of lectures and the conditions of study and graduation, and the degree of A. M. was conferred on Dr. Smith, while that of M. D. only came in 1801. The fable of the emergence of Minerva fully armed from Jupiter's brain is hardly more remarkable than the complete evolution of this school, and the placing of it on the shoulders of one man.

It is related of our late lamented and accomplished colleague, Dr. E. R. Peaslee, that he lectured in different schools on nearly all the branches of medicine, but I think it can be said truly of no man but Dr. Smith, that he gave instruction for years in all the departments at the same school.

At the Commencement, Aug., 1798, two young men received the degree of M. B. as the first fruits, and one of them, Joseph Adams Gallup, M. D., 1814, became eminent as a practitioner, Professor in Castleton Medical College, and author. His diploma, then conferred,—a handsome copper plate,—we have as a memorial of this eventful period.

The interest excited by the instruction in this new department is curiously illustrated by an anecdote, related to me by a gentleman who was, early in this century, an undergraduate in the college:

President Wheelock came from Dr. Smith's lecture room to evening prayers in the old chapel, and gave thanks in substance, as follows: "Oh, Lord! we thank Thee for the Oxygen gas; we thank

* Pres. A., p. 11.

† Smith's History Dartmouth College, p. 342. Dr. S. letter to his wife, "Hanover, Nov. 20, 1797.—"I am so much engaged here, and the time for beginning my business is so near, that I cannot come to Cornish till I begin my lectures." Pres. A., p. 12, says "early in 1798."

‡ Appendix C.

Thee for the Hydrogen gas; and all the gases. We thank Thee for the Cerebrum; we thank Thee for the cerebellum; and for the medulla oblongata."*

After Dr. Smith's official connection with Hanover,† he engaged in a wide practice of medicine and surgery, mostly on horseback, over a rugged country, with poor roads, often nearly impassable, exposed to all the vicissitudes of the weather, and every autumn addressed himself with characteristic ardor and faithfulness to the work of instruction, leading his classes skillfully through the several departments of medical science by a much more direct path than he had trodden, and imparting to them his own knowledge, experience, and energy.

His first and only colleague‡ at Hanover was Dr. Cyrus Perkins (Dart. 1800, M. B. 1802, M. D. 1810), who was appointed Professor of Anatomy and Surgery in 1810, at the request of Dr. Smith, "for relief from teaching Anatomy."

He worked successfully with Dr. Smith till 1813, and with new members of the Faculty till 1819, when he removed to New York City, and died at Rossville, Staten Island, in 1849, aged 70.

Dr. Smith was skillfully aided in 1798 and 1799 by his pupil, Lyman Spalding, M. B., Harvard, 1797, who lectured on Chemistry§ and Materia Medica, and printed for the use of the classes "A

* James Patterson, Esq., Bath, N. H., the oldest living graduate of Dartmouth, 1812, confirms this as occurring in 1810, in letter, Oct. 13, 1879.

† He removed his family to Hanover, probably in the spring of 1805, as the Trustees in Aug., 1804, voted him an annual salary of $200 on this condition.

‡ Prof. K., p. 10, says, "The medical school flourished under his auspices and those of the able professors who were associated with him." Silliman. Yale Book, v. 2, p. 68, Memoir of Dr. N. S., says, "After having single-handed taught for several years the various branches of medicine and surgery and the auxiliary sciences, and spent about a year in Great Britain, he returned home, where he was now sustained by an able corps of associates." This is an error. He went abroad before he began to teach, and had no Associate Professors; but one in 1810–13.

§ Chemistry was first taught by Dr. John Maclean, in the College of New Jersey, 1795, and by his pupil, Prof. B. Silliman, in Yale College, April 4, 1804. "At the Commencement of Dartmouth in 1801. Daniel Webster pronounced a discourse on 'The recent discoveries in Chemistry, especially those of Lavoisier,' then recently made public." Life of Prof. A. Alexander, p. 259.

new Nomenclature* of Chemistry, proposed by Messrs. DeMorveau, Lavoisier, Berthollet, and Fourcroy, with additions and improvements." He published "A Dissertation* on the Bilious Malignant Fever" (Dr. Smith's Typhous), that prevailed at and around Dartmouth College in the summer of 1798, and on graduation at Harvard, an "Inaugural Dissertation on the Production of Animal Heat.*

Dr. Spalding afterward attained distinction as a practitioner in Portsmouth, N. H., and New York City; as President and Professor in the Medical School of the Western District of the State of New York, at Fairfield, in 1812; and as the *Originator*, in 1817, of the movement for a Pharmacopæia of the United States, adopted at Washington, 1820; and *Chairman* of the Commitee of Publication that issued it to the profession, and was the acknowledged "*Head*" of the whole scheme,† its inception and completion, as appears from the historical documents.

There is a tradition, current for the last half century, that the lectures were given *at first* in a small two-story house of four rooms, that stood just in front of this building, which is called in Dr. Smith's first deed of a site to the state, "the Medical House,‡ being the house next southerly of my dwelling-house."

In August, 1799, the Trustees "devoted and fitted up room No. 6," in the north-east corner and first story of Dartmouth Hall for Dr. Smith's lectures, and in August, 1803, provided farther accommodations in an adjacent room; "which two served for a lecture hall, dissecting room, chemical laboratory, and library," until the present medical building was erected in 1811.

The school prospered under these most inadequate conditions, but it was obvious that private funds could not longer provide for what was in its scope and effects a *public* institution.

In 1803, on the application of Dr. Smith for aid, the Legislature of New Hampshire voted an appropriation of $600 for apparatus,

* All seen in the Library of the N. Y. Hospital Society.

† Prof. Asa Gray, Am. Journal Science, Apr., 1879, p. 264, speaks of Dr. Jacob Bigelow as "at the head, or at the laboring oar, of the Committee which, in 1820, formed the American Pharmacopæia." The latter part of the statement is correct, and he was on the Committee of Publication. Dr. S. died at New York, 1821, Æ. 46 years. Dr. B. died at Boston, Jan. 10, 1879, at 92 years.

‡ Removed years ago to the south-west corner of the village, and is now the Westgate house.

and on his solicitation the state gave a farther sum of $3,450 to erect a building, of brick or stone, for a Medical School, on condition that "he would give a site for it and assign to the state his Anatomical Museum and Chemical Apparatus."

His house, which stood north and by the *well*, at the entrance to Prof. Hardy's place, was burned in 1855. He owned a small farm of about forty acres, extending from Prof. Lord's house on the south to some distance above Prof. Hardy's house, with the front on the opposite side of the street, and the hill on the east, then covered with a beautiful grove of ancient oaks and maples, which were mostly cut off by a subsequent owner after 1840, and twenty or more acres of meadow lying east of the hill and on the road east from the college.

He gave for the site, Dec. 31, 1810, a half acre, just east of this building, higher on the hill. This was found inconvenient of access, and June 1, 1811, he conveyed to the State of New Hampshire forty-five square rods, the site we now occupy,* and this building of brick was erected, seven-five feet by thirty-two, having two† commodious lecture rooms in the two-story centre, and two three-story wings for library, chemical laboratory, museums, &c., &c.

It is understood the appropriation made by the state was insufficient, and Dr. Smith raised more money to complete the work, and thus was provided a comfortable "habitation," in which became permanently established "the New Hampshire Medical Institution."

From whatever point we view it, this enterprise was a bold one, quite akin to that of Wheelock in founding the college, and a natural sequence of it. Every new country has a heroic period, in which it is especially true that "every man is the artificer of his own fortune."

It was unprecedented for a young physician, without a liberal education and with very small resources, to attempt to found alone a professional school, when a similar one connected with the first

* He reserved "a road or passway from the road (or highway) to these lots, twenty feet wide, from the lines of the lot of H. Hutchinson," 1814 (now occupied by Prof. Lord), and passing between and including the two large maple trees on the edge of the hill. V. deed of N. S. to Yale College, and of Yale College to Blaisdell and Hubbard, 28 March, 1839.

† The upper room now contains the new and valuable Stoughton Museum of Pathology.

college of New England (Harvard), founded in 1640, was with difficulty sustained under the instruction of three eminent and learned men.*

We can see from this recital how completely Dr. Smith triumphed over difficulties which no other man would have dared to encounter, and how decidedly his sagacity and good judgment were confirmed as to the wants of the profession, and the means of meeting the dearth of medical science by the supply of educated physicians. The prosperity of the school was secured, and in 1814 its classes had increased in numbers to seventy-seven.

The school at Cambridge gave its first degree in 1788, and up to 1798 there were twenty graduates. Comparing the two schools from 1798 to 1828, both inclusive, Harvard graduated two hundred and thirty students of medicine, and Dartmouth three hundred and forty; and to this date, one thousand three hundred and fifty-five.

If this were the climax of Dr. Smith's life and he had rested from his labors, and this school was his only monument, we might justly inscribe upon it, "Gaudet tentamine virtus."† It is impossible that a man capable of accomplishing these results should not have acquired an eminent fame beyond the immediate scene of his labors.

The graduates of this school, "young, enterprising and intelligent physicians, had settled in the neighboring parts of New Hampshire and Vermont, as well as in more distant places of New England.‡ They all looked up to him as their friend and professional father, and wished him as their counsellor. This, together with his deservedly high and continually increasing reputation as a kind, attentive and skillful physician and surgeon, drew upon him a vast amount of business. The good which he accomplished by affording advice and counsel, and imparting a portion of his own vigor and energy to the younger members of his profession, as well as the more direct benefit which he gave the sick, can scarcely be estimated."

* Pres. A., p. 12, says, "For some years after 1798 there were but few students of medicine attendant on the lectures, as I may safely assert from being a hearer of them myself."

† The Dartmouth motto.

‡ Prof. K., et seq.

Dr. Smith seemed now well established at Hanover, where he was surrounded by friends, and the school, "the child of his hope which he had raised from the cradle,"* was in a vigorous and thriving condition; but the country was poor, remuneration for practice and instruction not large, and somewhat precarious, with his unbounded professional generosity his income was small, while discouragements and difficulties of a local character were not wanting.

Just then, in 1812, Yale College determined to establish a Medical Department, and wished a man of ripe professional experience and tried success for the enterprise. There was no hesitation in the selection. Dr. Smith was called to take the foremost place and responsibility. He accepted the appointment of Professor of the Theory and Practice of Medicine and of Surgery, commenced his lectures in New Haven, in 1813, when fifty-one years old, which he continued annually through his life.

"In the year 1814,† by the personal exertions of Dr. Nathan Smith, funds to the amount of $20,000 were obtained by a grant from the Legislature of the State of Connecticut. With these a new stone building was purchased, a Library was begun, and the foundation of an Anatomical Museum was laid."‡

He was now far more eligibly situated for his practice, which was very large in the city and vicinity. "He was called in time into every county and almost every town in the state. The sick and unfortunate from every part of the country collected to receive the benefit of his skill, and his life was one continuous scene of active, laborious, and useful exertion."

Under the auspices of Dr. Smith and his eminent associates, Professors Silliman, Ives, and Knight, the school prospered, and the classes advanced to ninety members during his life.

Dr. Smith's resignation at Dartmouth was not accepted till 1814. He was re-elected in 1816, but declined the election, gave a final course of lectures in 1816, and removed his family to New Haven

* Pres. A., p. 14.

† Prof. K., Introductory Lecture, 1838, p. 8. The Sheffield S. S. Building, at the head of College street (erected by Hon. James Hillhouse, originally for a tavern), and land adjacent on the east and north, where was Prof. Eli Ives's Botanical Garden.

‡ Prof. Kingsley, Christian Spectator, v. 1, p. 642, says, "At his death he gave his Library to the Medical School."

in the spring of 1817. During all this time he practiced extensively in all this region in the summer, certainly as late as 1821.

In 1820, the new State of Maine established a Medical School, with an annual appropriation of $1,000 a year, which was opened at Bowdoin College in the spring of 1821. Dr. Smith was called to organize this school also, *the third*,—and for five* years, from 1821 to 1825 inclusive, he carried as usual the chief burden, and gave all the lectures, except in Chemistry and on Anatomy, from which he was relieved after two years.

He gave, also, four † courses of lectures at the University of Vermont, as "Lecturer on Medicine and Surgery," 1822–1825 making some forty-two general courses with which he was connected in the thirty-two years from 1797 to 1828, both inclusive, and giving instruction in different departments in about one hundred and thirty-eight‡ special courses. During this time Dr. Smith saw numerous other schools established in various parts of the country, attended by some 2,000 students.§

"To him, more than to any other man, it is believed, may be ascribed this rapid increase in the advantages for medical education in America. Who can estimate the value of the results, which may be traced to the blessing of God, on the enterprise of one man."

An eminent Professor of Yale College wrote of him: "His lectures, which were commonly, if not always extemporaneous, were probably at no period more fraught with various knowledge and with the results of recent observation and reading, than from the time he removed to New Haven till his death."‖

It is plain that no man can carry such a burden of duty and responsibility indefinitely. The end comes far too early, and the world reluctantly surrenders such an invaluable treasure. We are

* Pres. A., p. 16. Prof. K., p. 12. says, "two."

† Triennial Catalogue, University of Vermont, from J. E. Goodrich, Librarian, where his son, N. R. Smith, M. D., was Professor of Anatomy and Physic.

‡ A near estimate. Prof. Blumenbach, of Gottingen, in fifty years gave one hundred courses of lectures.

§ Pres. A., p. 16.

‖ Prof. J. L. Kingsley, Christian Spectator, v. 1, p. 644. Rev. of Dwight's Travels in North Germany, 1825–6, in defense of American Professors.

indebted to Prof. Knight for the following account of his last illness:*

"In July, 1828, Dr. Smith had a severe but short illness, which left him in a debilitated state. Weakness and occasional attacks of illness continued through the summer and autumn. Though enfeebled in body, his mind retained its usual vigor and activity, and unwilling to yield to what he probably considered a trivial complaint, he continued, with the exception of a few days, his laborious employments. He was now in the midst of his annual course of lectures, when, toward the close of December, he was attacked with a severe vertiginous affection, which was alleviated by remedies. On January 13th, he perceived a slight numbness of his left hand and a trifling indistinctness in his articulation. These symptoms gradually increased until the morning of the 26th (Jan., 1829), when the powers of life became exhausted, and at six o'clock, in the sixty-seventh year of his age, he slept the sleep of death."†

During his illness he was tenderly watched by his colleagues and their families day and night. A favorite and admiring pupil, Dr. George C. Shattuck (a graduate of Dartmouth 1803, M. B. 1806, and M. D. 1812), came on from Boston to see him, and comforted his last hours by promising to assume the education of his youngest son,—then in his second year at Yale,—which promise he faithfully fulfilled. Dr. Reuben D. Mussey, his pupil and successor here (Dartmouth 1803, M. B. 1806, and M. D. 1812), was also by his bedside with kind ministrations.

In regard to the religious character of Dr. Smith, "there is reason to believe his last days were his best days." He had never made a profession of his faith, though he had been an attendant upon the public worship of God, and always "regarded the institutions and the ministers of religion with the highest reverence."

"A friend held a long and deeply interesting conversation with him some months before his death in which he expressed his full conviction of the truth of the Christian religion."‡ On its consolations he seemed to rely in the closing scenes of his life, "requesting the counsel and prayers of several ministers of the gospel."

* Prof. K., p. 13.

† Dr. Thomas Hubbard, Pomfret, Conn., succeeded him; d. 1838.

‡ Christian Spectator, v. 1, p. 208, 1829.

"When one of his friends asked him if in communicating the sad fact to one of his sons he might say that 'he died in the faith and hopes of the gospel?' he professed that such was the fact, and wished his friend thus to write."*

The college, and the city of New Haven mourned at his death, and a wide-spread sense of bereavement was felt throughout all classes; for the rich and the poor were equally his friends and debtors. Professor Silliman wrote: "He was the favorite of a wider circle of personal acquaintances and friends than any other man probably ever enjoyed in New England."†

I might now, young gentlemen, leave this brief sketch to your own reflections, believing you can draw from this example only profitable inferences and principles to form your habits of study and professional life; but it is proper and just to add some special delineations of his character, recorded by those who knew him.‡

"Dr. Smith possessed a keen, discriminating inquisitiveness into every thing submitted to his inspection—a principle of rational inquiry for information to be applied to some valuable purpose."

"Closely related to this, and perhaps a consequence, his memory was remarkable in regard to all the diseases he had treated and the operations he had performed, so that he had always at command all the results of his experience to confirm and illustrate his opinions." In all this fulness his mind was not inclined to speculation, but rather by "a faculty familiarly called plain common sense" he could apply his knowledge "to all subjects connected with his profession."

Dr. Smith had "an undaunted moral courage." The physician or surgeon is often brought into straits by the peculiarity or severity of the disease, or the risks from using "a powerful remedy or performing a painful and hazardous operation," as well as embarrassed by the anxiety of friends and various social influences. "Having satisfied himself what course was best for his patient, he honestly advised and fearlessly pursued it, regardless of the censure which might follow should it prove unsuccessful."

"With him there was no hesitation, no wavering between duty and expediency, between the welfare of his patient and his own

* Pres. A., p. 27.

† American Journal Science and Arts, v. 16, p. 213.

‡ Prof. K., et. seq.

reputation. This conduct in one who valued reputation so highly, is the strongest proof of the existence of that courage of the mind so much more noble and so much more rarely found than mere physical valor." "He was especially kind, assiduous, and delicate in the treatment of his patients," exhibiting everywhere encouraging words, and "the cheerful countenance that doeth good like a medicine alleviating the distress as well of the body as of the mind." "If patients were dangerously sick he watched at their bedside day and night, performing the offices of a kind friend as well as those of a skillful physician."

"As an instructor the reputation of Dr. Smith was high from the first. The fact that he gave instruction upon all the branches of medical and surgical science, which was acceptable to classes of intelligent young men, many of whom have become eminent in their profession, proves not only versatility of talent but variety and extent of information, with a happy method of communicating it. This was simple, natural, and unaffected. He sought no aid from an artificial style, but merely poured forth, in the plain language of enlightened conversation, the treasures of his wisdom and experience." He said little of theories, but insisted on facts and principles illustrated by cases in his own practice, "related always in an impressive and often playful manner, to gain the attention and fix the truth in the mind."

"He often urged upon his pupils correct moral deportment, industrious habits, independent judgment of cases, love of the profession, activity in the practice of it, and zeal in the promotion of its best interests. His suavity of manner and kind interest in the welfare of his pupils gained their affection and friendship."

"The various relations of life were sustained by Dr. Smith in an exemplary manner. As a citizen, the same spirit which prompted him to enlist in the service of his country when engaged in war, led him to support, by his influence, her institutions in time of peace. As a lover of good order, he rejoiced in the enaction and the execution of wholesome laws and regulations; and as a friend of morality, he discountenanced vice in every form. The purity of his life, it is believed, arose not so much from the restraints of society, as from a purity of mind which remained unsullied."

"In his relations to his fellow men there are particular traits of his character which ought not to pass unnoticed: He possessed strong social feelings and habits. Accustomed from early life to the society of men in every station, he entered readily into unreserved intercourse with all. In companies of every kind, learned or unlearned, polished or otherwise, his conversation, his fund of anecdote and the acuteness of his remarks upon all subjects, whether relating to the common affairs of life or the more important concerns of morals or literature, rendered him a welcome guest. His manners, which were free, yet unassuming and unshackeled by the forms of ceremonial observances, were such as to impose no inconvenient restraints upon others or upon himself. No one delighted more in social intercourse with his friends, and in a free interchange of feelings and opinions with them. This was one of the pleasures of his life, and endeared him to those with whom he associated."

"Dr. Smith was eminently a benevolent man. He regarded man as his brother, and when in distress, as a brother he afforded him relief. No one, it is presumed, ever heard him say to the destitute, 'Be ye warmed and be ye clothed,' without at the same time furnishing the means of relieving their necessities."

"Dr. Smith was more extensively known in New England than any other medical man, or indeed, than any man of any profession. The assertion that he has done more for the improvement of Physic and Surgery in New England than any other man will by no one be deemed invidious, and his influence over medical literature, through his large acquaintance with medical men, by his advice and example, as well as more directly through the medium of the various medical schools which were favored with his instructions, *was equally extensive*."

Well may his son in honest pride say, "He was instrumental in founding colleges of medicine which now flourish (even today, 1879, and fifty years after his decease) as his noblest monuments in several states of New England."

"Though he labored sufficiently for earning three fortunes, he died leaving none."*

* Preface to "Medical and Surgical Memoirs by Nathan Smith, M. D., Professor Theory and Practice, Medicine, Surgery and Obst., Yale College," edited by his son, N. R. Smith, M. D., Baltimore, 1831.

The publications of Dr. Smith are not numerous. One of the most important and best known is a "Practical Essay on Typhus (Typhoid) Fever, 8vo, 1824, New York," which our late lamented Prof. A. B. Crosby said "was the first comprehensive description of Typhoid Fever written, and covered in a wonderfully exhaustive way not only the clinical history and pathology of this interesting disease, and in which the gist and germ of the magnificent discoveries of Louis in the Hospitals of Paris years after are anticipated."*

This appeared again in "Medical and Surgical Memoirs," where the student will find much of what he did, which is original in medicine and surgery.

He edited, with copious notes and additions, "A Treatise on Febrile Diseases, by A. P. Wilson Philips, M. D., 2d Am. from 3d London ed., Hartford, 1826, 2 vols."

He contributed valuable papers to the Philadelphia Monthly Journal, some of which were reprinted in the French Medical Journals.†

He ranks as second in time among Ovariotomists, having performed an *original* operation at Norwich, Vt., July 5, 1821, with no knowledge of McDowell's operations.‡ Out of thirty cases of Lithotomy, only three were fatal. He lost no patient of hemorrhage, consequent upon an operation, and he first in America performed Staphyloraphy.

His surgical clinic in the first course at Bowdoin, included twenty operations for cataract, one removal of an eye, one amputation of a leg, with various others.§

In reference to necrosis, amputation of the thigh, reduction of dislocation of the hip, and treatment of fractures, his principles and devices were new and valuable. "To him is justly due the credit of having introduced and diffused over a large part of New

* Smith's History Dartmouth College, pp. 346-7, quoted. Dr. S. in a letter to his wife, dated Brunswick, Me., April 4, 1823, says, "I am writing a book on Typhous Fever—have written it all out, and when copied it will be ready for the press. I shall write another on Surgery, which I hope to have nearly completed before I leave this place."

† Pres. A., p. 31.

‡ Dr. McDowell was studying in Edinburg, 1793-4.

§ Pres. A., p. 15.

England, the most correct practice of all the celebrated surgeons of the last and the present century, which is no mean praise."*

A few of Dr. Smith's pupils and friends still survive, and have favored me with some particulars of his life. Dr. Abraham T. Lowe, of Boston, a graduate in 1816 at this school, who rode with Dr. Smith at that time five months, has sent me some recollections of his pupilage. His fellow-student, Nehemiah Cutter, M. D., Yale, 1817, was afterwards prominent in the treatment of Nervous Diseases, at Pepperell, Mass.

He says: "We generally rode on horseback, Dr. Smith in the middle. Almost all of our conversation took the form of clinical lectures on the surgical and medical cases which we visited in our sometimes long circuit of days, and it was always interesting and instructive. At this time he was preparing his edition of 'Wilson on Fevers,' afterward published at Hartford. When we were kept from home for a night, Dr. Smith would retire to his room and write a chapter or a few paragraphs for the work, much of which, I think, was written in this way.

He was once called in, when riding through Queechy, Vt., to see a severe case of secondary dysentery, the patient in great distress, and the room full of despairing friends. The attending physicians had prescribed sedatives, as they thought, with the utmost liberality, but without benefit. Dr. Smith asked but one or two questions, and administered a compound opiate, in a dose which led his pupils to fear the patient would be relieved from all pain and enter the spirit land within the coming hour. He waited for the effect of the medicine, called the attention of the anxious friends to a remarkable yoke of oxen he espied through the window, and by inquiries and remarks that led to much conversation, he completely diverted their minds. Soon a whisper was heard, 'She's sleeping;' and again, 'Doctor, do you think she will get well?' and his reply, 'Get well? yes, of course she will.' At the end of an hour he left the patient sleeping quietly and breathing freely, all anxiety removed; and she fully recovered."

"Before the discovery of Anæsthesia, surgeons suffered in their sensibilities as well as their patients. With other pupils, I accompanied the doctor to a distant town, expecting to see a capital

* Prof. K., p. 28.

operation. It was a case to excite commiseration. The patient was old enough to understand the purpose in hand, but not sufficiently mature to perceive its necessity. It was a chilly morning as we sat by the fire, and the doctor looked at the patient at the farther end of the room. The lad was emaciated and trembling. Dr. Smith was visibly affected, his eyes dropped tears and his hand trembled as he whispered to me, 'I shall not do what they expect. It is a cruel business, and I will perform a less severe operation, in the hope it may have the same effect.' On examination it became apparent that the severer operation (amputation of the thigh) could not be avoided. Before we returned to the room he said to the attending physician, 'Hall, you know all about this boy's sufferings; at the moment we begin, bend over and across the bed to hide us from his sight, and do your best to comfort him,' the tears still falling from his eyes. At once he became calm, the tremor left him, and in less time than while I write this period the operation was completed; and the patient recovered."

Dr. Lowe adds, "Dr. Smith was a great and good man. He never seemed to toil for professional fame, but to do good to his fellow men, and in view of his virtues as a citizen, and his justly prominent skill as a physician, one of his surviving pupils, of more than four-score years (eighty-four!), says: 'Honored be the name of Nathan Smith, the founder, father, and for many years the sustainer of the Medical Department of Dartmouth College; ever recognized by all his friends and acquaintances as an honest man and most useful citizen.'"

The venerable Professor A. S. Packard, of Bowdoin College, more than fifty years in office, writes me: "I was a tutor in our college, and heard Dr. Smith's opening lecture in 1821, and other lectures in subsequent years, and his lodgings were in the same house where I boarded. It is one of my most pleasant reminiscences, and I have not ceased to recall the noble traits of that eminent man with great satisfaction."

Ex-President Woolsey, of Yale College, relates that "When Dr. Smith came to lecture at Yale, in 1813, he came directly to my father's house, and remained there all winter. He was the most delightful, unselfish, and kind hearted man I ever knew, and we children all loved him. He was confined to the house for a

month by an injury to his leg, and it was a great treat for us to be in his room, and difficult to keep us out."

He mentioned an anecdote of his humor: "He was riding through Guilford, a few miles east of New Haven, when a woman came out of a house and asked if he knew Dr. Smith, and if he were in New Haven? and explained there was a case there requiring his attention. He inquired the particulars, and said, 'I know Dr. Smith very well, he is not in New Haven, but I can attend to this case just as well as he can.' He did so,—performed the operation and rode away without telling who he was."

It has always been a gratification to myself to have known somewhat of this eminent man. His person, features, and dress are perfectly fresh in my recollection as you find them faithfully delineated in his picture, in the Stoughton Museum, and presented by Dr. Peaslee.*

I can testify personally, when a member of Yale College in the spring of 1828, to his tact and good sense, when called to the first case of an epidemic of varioloid† and small pox that invaded the college, by which he prevented a panic and a general dispersion of the students. He gave the students of the college in 1826 and 1828 an occasional lecture on Hygiene, in a style attractive and convincing.

An anecdote of his charity was then current. He was called to a neighboring town to amputate a leg, shattered by some explosion on an occasion like the 4th of July. The operation being finished, his charge was asked for. He replied, "Fifty dollars." The sympathizing crowd contributed the amount, which he counted and gave to the patient, and rode home.

Dr. Amos Twitchell,‡ late of Keene, N. H., who stood at the head of the profession as a physician and surgeon, was a pupil of

* Copied by U. D. Tenney, from the original in the Yale Medical School, by S. F. B. Morse; presented by the class of 1824–5.

† There were eleven cases of varioloid, and one fatal case of confluent small pox.

‡ Born Dublin, N. H., April 4, 1781; entered Dartmouth, 1798; A. B., 1802; M. B., 1805; died of paralysis, Keene, May 26, 1850, aged sixty-nine years; married June, 1815, Elizabeth, daughter Dr. Josiah Goodhue. He was offered a Professorship at Dartmouth, in 1819; Castleton, Vt., 1824; Bowdoin, 1826; University Vermont, 1827; and declined all.

Dr. Smith. He began practice in 1805 in Norwich, Vt., and experienced the ordinary discouragements of a young doctor.

Dr. H. I. Bowditch, of Boston, his biographer, relates the following anecdote, which "shows in a clear light the sagacious good sense of the preceptor, and his willingness to forget himself for the sake of his beloved pupil:"

Being naturally inclined to depression of mind, at one time, Dr. B. says, "Darkness had been resting over the young physician for many days." He had made up his mind "that it was impossible to succeed." He had few patients, and still fewer hopes of any. At length he confined himself to his chamber, and refused to see even those who called for his services. While urged by friends in the family to send for Dr. Smith or some other doctor, he declined, saying "he needed no doctor." Finally, the alarmed family sent over to Hanover for Dr. Smith, informing him of the circumstances, and of Dr. T's refusal to see him or any doctor.

The next day, early, Dr. Smith entered his room, and Dr. T. said, "What brought you here, sir?" He replied, "I was making my circuit and it brought me near you, and as I wanted you to make for me some of that chemical preparation (naming it) that you used to prepare when a student, I thought I would ask you to go home with me and make a little, and at the same time teach my students the art." T. said, "I can't go." S., "I cannot listen to any refusal. You *must go;* besides, I mean to show you a severe gun-shot wound, that I met with a few days since." T., "I repeat, sir, I cannot go." But remembering his former kindness, "I consented and prepared for the journey. We were soon in the carriage, and my companion, Dr. S., was in his liveliest humor. He told me of all he was doing, of his cases, the news of the neighborhood, &c., &c. Arrived at Hanover, I was kept hard at work all day in the Laboratory and teaching the students, until dark. Smith then came home and thanked me very much for what I had done, and said, 'It is too late to think of returning home now, you will pass the night here.' I protested in vain. 'Besides, there is that patient I told you about, we must get up early to-morrow morning and go and see him.' "

"Unwillingly I yielded, and the next day at early dawn we were in the chaise. I observed the doctor had his gun with him, but presumed that his love of hunting, gained in his youth, was the

cause of it. We visited two or three patients, and drove farther and farther from home. About dinner time we stopped at a country inn and took dinner, and it was proposed to the landlord that he should put up some turkies for us to shoot at. The afternoon passed away rather more pleasantly,—the whole of it was spent in sporting, and my mind was taken from the fixed and morbid contemplation of my own thoughts. Evening came, and we were still far from home, and the result was another night's sojourn at Dr. Smith's, and a prospect of another ride in the morning."

"The next day, as we were driving over hill and dale, it suddenly flashed upon me that Smith, my honored master, had been thus devoting two whole days to cure me of a mere mental hallucination. I felt thoroughly ashamed of myself at the idea. The charm was broken, I knew he had been reading me all the while, and I had been behaving like a fool. We were rapidly driving down hill, and Smith was talking, as usual, when I burst out into a loud laugh. He turned to me with his keen, kind glance and said, 'Well, what is the matter *now?*' I replied, 'What a fool you must have thought me, I feel heartily ashamed of myself.' He shrewdly replied, 'I rather think you will be able to go home to-night!!' Ever after, if I looked sad Smith would bring me up to a right frame of mind by asking whether 'it would not be well *to go to Hanover to make chemicals?*' "

I will add to these testimonials one from Edward E. Phelps (M. D., Yale, 1825), of Windsor, Vt., who was for two years pupil of Dr. Smith, and for many years an honored Professor in this school, and whose opinions we are accustomed to receive with great respect:

"Of Dr. Nathan Smith what shall I say? He was a kind-hearted man, a most sagacious physician, and every inch a philosopher. I have of late years endeavored to make up my mind to what to attribute his greatness, and so far as I can settle this question, I think his great talent lay in two things, principally.

First, his remarkably clear idea of vital action. He was not versed in the complicated knowledge of modern physiology, but he had just such views of the laws of vital action as John Hunter, Bichat, and old Haller,—a far reaching insight of life and all its various phenomena,—which is a far better discerner of morbid action than

even the refined physiology of the present day, unless assisted by clear views of life as a whole or an unit.

Second, the other factor was his astonishing, acute perception of the most trifling deviation from normal action in the human system, and a remarkably just estimate of its value. This explains the wonderful sagacity he possessed in diagnosis and prognosis.

His reading of cases at the bedside, with the very few and brief interrogatories, was most remarkable for its accuracy. To the same keenness of perception was due his accurate knowledge of the remedies he used and their peculiar adaptation to the case before him.

Of his surgical talent, I must say a word of the injustice done him in relation to some of the great improvements of modern surgery. The reduction of dislocations by the maneuvre, as it is now called, was practiced by him as early as 1818, almost before those who claim the discovery were born; and ovariotomy was practiced successfully by him almost simultaneously for the first time with Dr. McDowell, and at a period when intelligence between remote parts of the country was almost impossible.

Smith's first operation was not an accidental one, a hap-hazard attempt to get an ugly case out of the way, but the result of a calm, deliberate study of the laws of vital action, just like all the rest of his surgery. There was as much of John Hunter in it as in any action of John Hunter's life.

With the deep rooted modesty of true greatness, he did almost nothing to spread abroad his doings, but was contented, like the sower of good seed, to trust to Providence for its germination and its fructifying results. His mental structure is best understood if we consider it as an harmonious combination of some of the best intellectual qualities of those great men whom he so highly esteemed, and whose works he so enthusiastically studied, such as Baron Haller, John Hunter, Xavier Bichat, and Sir William Jones, the eminent Asiatic scholar. I have thus briefly given a little tribute to the memory of one who certainly has not had his superior in medicine. It may have been said of him that he was not a scientific man. I deny it. He was all science. As well assert that John Hunter was not a scientific man. He was filled with science as by a species of inspiration."*

* Appendix D.

APPENDIX A.

The family of Monro was so long connected with the University of Edinburgh, and Monro, Secundus, and Dr. Black having been Dr. Smith's instructors, I give the following notes concerning them. Slight variations exist, with authorities:

John Monro settled in Edinburgh in 1700 as a Surgeon, after serving as Surgeon under King William, in Flanders.

His son, Alexander Monro, Primus, born London, 19 Sept., 1697; 1717, Anatomy with Cheselden in London, and made anatomical preparations for his father; 1718, Hospitals in Paris, and lectures of Chomel Botany and Chemistry, et al.; 1718, autumn, Leyden, w. Boerhaave, Chemistry, Theory and Practice, and Clinical Lectures; 1722, succeeded Profs. Drummond and McGill in Anatomical College Physicians and Surgeons; 1725, Professor Anatomy Edinburgh University for forty years, and died July 10, 1767, aged seventy; and succeeded by his son

Alexander Monro, Secundus (*also Elder*), born Edinburgh, 20 May, 1733; 1751, began medicine with father, assisted in dissecting room, studied under Profs. Rutherford, Sinclair and Alston; 1753, aided father in his lectures; 1755, graduated M. D., Professor Anatomy and Surgery, "on request of his father," after study at London, Paris, Berlin, and Leyden; 1758, lectured as colleague with father, and for forty years lectured without aid (son began to assist 1798 or 1800), continued Surgery to 1807; Introductory lecture to course 1808–9, when seventy-six years old; a Professor fifty-four years; died 1818, aged eighty-five, and succeeded by his son

Alexander Monro, Tertius (*also Junior*), born Edinburgh, Nov. 5, 1773; 1798, colleague Professor with father; 1799, M. D.; 1803, began class of practical Anatomy; 1808, succeeded father in Chair of Anatomy; retired from chair 1847 as Emeritus Professor, "and thus ended the connection of the College of Edinburgh and the family of Monro, which lasted for more than a century and a quarter;" died March 10, 1859.

"Monro, Primus, lectured to 3,850 students, whose expenses in Edinburgh at £50 each must have amounted to £192,500; Monro, Secundus, to 14,000 students, £700,000, or the sum of £892,000, or near three and a half millions of dollars, which these two distinguished individuals added to the improvement of Edinburgh and its inhabitants."—Edinburgh Encyclopædia, American edition, 1832.

Dr. Joseph Black, born Bordeaux, France, 1728; 1756, Professor of Anatomy, and Lecturer on Chemistry, University of Glasgow, on taking M. D., and Thesis on "Cause of difference between limestone and quicklime, or mild and caustic alkalies," in place of Dr. Cullen transferred to University of Edinburgh; 1766, succeeded Dr. Cullen at Edinburgh; Professor at Glasgow and Edinburgh nearly forty-three years; died Nov. 26, 1799, aged seventy-one years. His successor was

Prof. Thomas C. Hope, born Edinburgh, July 21, 1766 (son of Dr. John Hope, Professor Botany, University Edinburgh); 1787, Professor Chemistry, Glasgow; 1795, assistant to Dr. Black; 1799, succeeded Dr. Black as Professor Chemistry, University Edinburgh, to end of session of 1843, forty-four years, and at Glasgow and Edinburgh fifty-six years; died June 13, 1844, aged seventy-eight years; annual income from lectures reported as 4 to 5,000 dollars.

Prof. B. Silliman's instructor in 1805.

APPENDIX B.

This honor led in after years to the following letter:

LONDON
MEDICAL SOCIETY, London, Nov. 6th, 1823.
Bow Court, Fleet Street.

Sir: I have the honor, by the direction of the Council of the "*Medical Society of London*," to communicate to you that it is the intention of the Society to resume the publication of their transactions, and anxious to avail themselves of the advantages of your talents and information, they beg that you will, as a corresponding member of the society, favor them with any communications you may deem of sufficient interest upon subjects of Medicine or Surgery generally; or with the detail of any curious or important cases which may have come under your consideration. By such a mode of correspondence the Society trust that a degree of good fellowship and esteem may be maintained between the learned of the two nations which cannot fail to add to the advantage of each.

I have the honor to be, sir,
Your very obed't servant,
ROBLEY DUNGLISON,
Secretary for foreign correspondence to the Medical Society, and one of the Editors of the London Medical Repository.

To Dr. Nathan Smith.

P. S. I should feel highly honored by being proposed a member of any of your Scientific Societies in America.

Dr. D. was now about twenty-six years old. Little did he anticipate that within another year, he would make a winter voyage and arrive at Norfolk, Va., in February, 1825, on his way to the Professorship in the University of Va., thence to another in Baltimore, and next in Jefferson Medical College in Philadelphia, and to an eminent professional position and membership of learned societies in America.

APPENDIX C.

Some of the events of this period are worthy of record here. The following is a list of the Trustees in 1798:

John Wheelock, L. L. D., President 1779–1815, Dart., 1771.
Prof. Bezabeel Woodward, Treasurer, Yale, 1764.
Rev. Eden Burroughs, Yale, 1763.
Elisha Payne, Esq., Dart., 1784.
Rev. David McClure, D. D., Biographer Pres. E. Wheelock, Yale, 1769.
Prof. John Smith, Dart., 1773.
Hon. Peter Olcott, Judge Sup., Ct. and Lt. Gov. Vt., Hon. Dart., 1796.
Rev. Israel Evans, Founder Evans Professorship, Col. N. J., 1772.

Jonathan Freeman, Esq., Treas. M. C.; Hon. Dart., 1795.
Hon. Nathaniel Niles, M. C., Col. N. J., 1766.
Gov. John T. Gilman, ex-offi., Hon. Dart., 1796.

There are the Alumni of Yale, Princeton, and Dartmouth.—Clergymen, Governors, Members of Congress, and Civilians.—representing the intelligence of the country and the animating spirit of these colleges.

The proposition of Dr. Smith, in 1796, to establish a new Department, without endowment,—asking simply for favor and countenance, not for support,—was one where deliberation was most certainly wise and prudent.

Their committee, Rev. Eden Burroughs, and Hon. N. Niles, in their report of acceptance and organization, expressed the views of the Trustees.

The idea of growth and expansion lies at the foundation of this college. It was then only "Vox clamantis in deserto." "Under the government and protection of the general laws of the land these institutions——go on with the progress of society accommodating themselves easily, without sudden change or violence. to the alterations which take place in its conditions, and in the knowledge, the habits, and pursuits of men,—a better constitution for a college, or one more adapted to the condition of things under the present government, in all material respects, could not now be framed."*

This Royal Colonial charter authorized the Trustees to "Give and grant any such degree or degrees, to any of the students of the college, or any others by them thought worthy thereof, granted in either of the universities or any other college in our realm of Great Britain, and that they sign and seal diplomas or certificates of such graduations, to be kept by the graduates as perpetual memorials and testimonies thereof." So also, "To nominate and appoint all other officers and ministers, for the service of said college."† on the same broad basis of a university scheme as above, connected with a provision "to establish such ordinances, orders, and laws, as may tend to the good and wholesome government of the said college, and all the students, and the several officers and ministers thereof. and to the public benefit of the same." "And not excluding any person of any *religious denomination* whatsoever from free and equal liberty and advantage of education, or from any of the liberties and privileges or immunities of the said college on account of his or their speculative sentiments in religion. and of his or their being of a *religious profession* different from the said *Trustees* of the said Dartmouth College."‡

"A charter of more liberal sentiments, of wiser provisions. drawn with more care or in a better spirit, could not be expected at any time or from any source."*

Thus declared Mr. Webster, when maintaining on the broadest ground of English and American jurisprudence the franchises of the college, its rights and that of all its benefactors to visitation of their foundations,—and at the same time as the greater includes the less. "that each individual Trustee has his own individual *franchise*," and that "both President and Professors have *freeholds* in their offices; subject only to be removed by the Trustees. as their legal visitors, *for good cause*."

* Mr. Webster, in his argument in the D. Col. C., p. 281.
† Same, p. 14.
‡ P. 13.

These principles once settled, the way was prepared for receiving from liberal donors benefactions to any extent. So when, some thirty-four years after, Mr. Chandler proposed to found a new department, by a FUND of fifty thousand dollars, the whole subject received an exhaustive examination by the highest legal talent, and the Trustees accepted the trust and organized the "Chandler Scientific Department."

Later, Gen. Sylvanus Thayer (Dart., 1807,) donated a fund of seventy thousand dollars, for the "Thayer School of Civil Engineering."

Both of these, under the fostering care of the authorities and efficient officers, are adding, like the Medical College, to the fair fame of the parent stock on which they are engrafted.

A taste for Chemistry was thus early formed at Dartmouth, and three Professors of Chemistry are found among the graduates of the first part of the century, viz.:

Josiah Noyes, 1801, M. D., Prof. Ham. Coll., and Fairf. Med. Coll. N. Y.

Frederick Hall, 1803, M. D., Prof. Mid., and Trin. Coll.

James Hadley, 1809, M. D., Prof. Fairf., Ham., and Geneva Coll.

"In the 'Medical Repository, vol. 2, p. 337, 1799, New York,' we find the announcement that 'The Medical Lectures at Dartmouth College commence the first of October, annually, and continue ten weeks, on the following branches:—Anatomy, Surgery, Midwifery, Chemistry, Materia Medica, and Theory and Practice of Physic.' "

"This Institution was established in August, 1798, at which time the degree of Bachelor of Medicine was conferred on Joseph A. Gallup, Bethel, Vt., and Levi Sabin, Rockingham, Vt.; and the Honorary degree of Bachelor of Medicine on Lyman Spalding, of Harvard."

"The present medical officers are Nathan Smith, A. M., Professor of Medicine, and Lecturer on Anatomy, Surgery, Midwifery, Theory and Practice of Physic; and Lyman Spalding, Lecturer on Chemistry, and Materia Medica."

At Yale College the Corporation had taken an important step in 1798, thus described in the Yale Book, p. 211:

"Already in 1798, President Dwight, in the fulness of his learning and the wide reach of his intelligence, had perceived the importance of the science of Chemistry, and through his influence a vote of the Corporation was passed to the effect 'That a Professorship of Chemistry and Natural History be instituted in this College as soon as the funds shall be sufficiently productive to support it;' and in 1802, it having appeared that the fund was adequate, it was *Voted*, Sept. 7, 'That a Professorship of Chemistry be and it is hereby established in this College,' and in accordance with this vote, Mr. Silliman was elected Professor in this Department. Professor Silliman writes in his private journal: 'A single room was appropriated to this Department.' " Lectures began in 1804.

APPENDIX D.

Since this sketch was completed Dr. J. D. Smith, the only survivor of the family, has sent some letters of his father, from which are se-

lected a few extracts illustrative of his character as a husband and father:

Boston, Dec. 4, 1796.

By the time you will receive this I shall be on my passage to Europe, on board the Bark Hope, bound to Glasgow, Scotland. She is a good sound vessel, sails well, and very safe. The report respecting the French taking our vessels is not true, and no danger is expected from that quarter. I am very confident that I shall have a safe and good voyage. Wish you to live as happy as possible. Take every possible care of the boy, Solon. Kiss him often for me. I have no fear for myself, my anxiety is all for you and the dear little boy. Take good care of the house, and be sure that it does not take fire. I shall be in early in the spring, and hope thro' God's mercy to find you and Solon alive and well. If God will protect me thro' this enterprise, I am determined to abide with you till death shall part us. I am your most affectionate husband.

The day of sailing was deferred, and he wrote:

On board the Bark Hope, Dec. 17, 1796.

Now for the last time, until I arrive in Europe, I address you. I have lately sent you two letters, which I hope you will receive without delay. I have in them expressed my love and constancy to you, and my tenderness for the dear little Solon. All my anxiety is for my family. I fear no danger but on their account. I have been very fortunate since I left home, all excepting some delay in sailing, which I do not much regret as I have been able to procure letters and other advantages in this town which I should not have done if I had sailed immediately. Do, my dear, remember me. You are ever on my mind. I am sure I shall ever be happy if I live to return and find you and Solon alive and well. Do be careful of our dear little son. I shall keep you in mind, and hope to return happy. It is my constant prayer, and if good intentions can have any influence on our fortune, I am sure I shall succeed.

P. S. We expect a fair wind in the morning, and a pleasant voyage. There are four passengers on board, all very agreeable. The vessel is as good and safe as ever sailed from Boston, a fine captain and crew, all very obliging and civil. I lack for nothing to make me happy but your company, with Solon.

Glasgow, Jan. 24, 1797.

He writes: "As the winds and seas are uncertain, and as I may have a much longer passage going to America than I had coming here, I do not like to start till the stormy season is over, which will be about the first of May."

London, April 29, 1797.

I wrote you a few days since by way of Philadelphia, and told you then that I expected to sail for Boston in the ship Lydia, from Boston, but since that time I have concluded to go to Liverpool to sail, which I shall do in a few days. In sailing from Liverpool I shall avoid the French coast, and of course shall not be so liable to be detained by the French privateers. As I wrote in my last, I have been very well, have accomplished my business here, and am impatient to return to you and to embrace you with my little son, whom I love to excess. God send that he may be alive and well on my return. I am sure I will never leave you again. My country, my friends, and acquaintance will be dearer to me than ever. I shall probably be at home in a few days.

As to the cause that led him to protract his visit so as not to arrive at Boston till about the 10th of September, there remains no record.

NECROLOGY.

Smith, Nathan, b. Rehoboth, Mass. Sept. 30, 1762; d. Jan. 26. 1829, New Haven. Conn., of paralysis. aged 76 years.

Spaulding, Lyman, b. Cornish, N. H., June 5, 1775; d. ——— 1821. New York City. inflammation of brain, caused by accidental blow on head. aged 46 years.

Perkins. Cyrus, b. Middleborough, Mass., Sept. 4, 1778; d. April 23. 1849, Rossville, L. I., N. Y., aged 70 years.

Mussey. Reuben D., b. June 28, 1780, Pelham, N. H.; d. June 21. 1866. Boston, Mass., of old age, aged 86 years.

Oliver. Daniel, b. Marblehead, Mass., Sept. 9, 1787; d. June 1, 1842. Cambridge, Mass., of severe cold, inducing erysipelas of the brain, aged 55 years.

Dana. James F., b. Amherst, N. H., Sept. 23, 1793; d. April 15. 1827, New York City, of erysipelas, aged 33.

Parsons. Usher, b. Alfred, Maine, Aug. 18, 1788; d. Dec. 10, 1868, Providence. R. I., acute inflammation of the cerebellum, aged 80 years.

Hale, Benjamin, b. Newbury. Mass.; d. July 15. 1863. Newbury. Mass, aged 66 years.

Dr. Smith left four sons:

David S. C. H., Yale, M. D. 1816; d. April 6. 1859, aged 64 years.
Nathan R., Yale, A. B. 1816. M. D. 1820; d. 1877. aged 80 years.
James M., Yale, M. D. 1828; d. May, 1853.
John D., Yale, A. B. 1832, Balt. M. D. 1846.

Dr. Smith's monument stands in the New Haven cemetery, and is of red sandstone, after the model of the tomb of the Scipios at Rome; the same with that of Eli Whitney, the inventor of the Cotton Gin, and of Ashmun, the founder of the Colony of Liberia.

ERRATA.

Page 119, note ‡, after "Dr." insert "H. F. Crain."
" 124, for "£50," read "£30."
" 126, note *, dele "the oldest living graduate of Dartmouth."
" 128, for "seven-five," read "seventy-five."

Reports of District Societies.

REPORTS OF DISTRICT SOCIETIES.

REPORT OF THE CENTRE DISTRICT MEDICAL SOCIETY.

BY THE SECRETARY, GEORGE COOK, M. D.

To the Officers and Members of the New Hampshire Medical Society:

On the occasion of presenting this my third annual report, the Centre District Society closes its seventy-second year.

During the past year nine new members have been received. The meetings have been well attended, and more than usual interest has been manifested in the work of the society.

JULY 9, 1878.

Dr. L. W. Peabody read an interesting paper upon Physicians' Duties in Epidemics, and Dr. F. A. Stillings read a dissertation upon Scarletina.

OCTOBER 8, 1878.

Dr. B. E. Harriman and Dr. Mary S. Danforth were received as delegates from the Manchester District Medical Society. Dr. Julia E. Wallace read a paper upon Insomnia from Uterine Retroflection; and Dr. M. H. Felt one upon Emetic Medication.

JANUARY 14, 1879.

Annual meeting of this society. Dr. L. M. French was introduced as delegate from the Manchester District Society. President Dr. H. B. Fowler delivered the annual address, which was able and instructive, and was followed by a general discussion upon Sanitary Hygiene.

The officers for the ensuing year were elected as follows:

President—Dr. J. R. Cogswell.
Vice-President—Dr. J. R. Kimball.
Secretary—Dr. George Cook.
Treasurer—Dr. M. W. Russell.

APRIL 8, 1879.

Drs. Richards and Carvelle were received as delegates from Manchester District Society. Dr. I. G. Anthoine made report upon a peculiar disease of lungs, occurring in an iron moulder. Dr. G. D. Towne read a valuable paper upon Diphtheria, and Dr. A. H. Robinson one upon Influenza.

Verbal reports of cases, general discussions upon different topics have been in order at each of the meetings, and a number of patients came before the society for the purpose of examination.

The value of these quarterly meetings, familiar and free from all restraint as they are, cannot be over-estimated. What physician is there who cannot afford to devote a part of a day four times a year to such work? Or rather we would ask, What physician can afford *not* to do it?

CONCORD, June, 1879.

REPORT OF ROCKINGHAM DISTRICT MEDICAL SOCIETY.

BY THE SECRETARY, L. J. GIBBS, M. D.

To the Officers and Fellows of the New Hampshire Medical Society:

I herewith submit the first annual report of the Rockingham District Medical Society. This society, previously existing as the Rockingham County Medical Society, organized under a charter from the New Hampshire Medical Society on Sept. 4, 1878, with the choice of the following officers:

President—Dr. C. S. Downs, of Nottingham.

Vice-President—Dr. T. O. Reynolds, of Kingston.

Secretary and Treasurer—Dr. L. J. Gibbs, of Epping.

Censors—Drs. J. C. Eastman, of Hampstead; T. M. Gould, of Raymond; and H. B. Burnham, of Epping.

Meetings are held quarterly, on the first Wednesdays of September, December, March and June.

The day appointed for the December meeting proved an unusually rainy one, and no meeting was held; at least no report of one has ever been read.

The March meeting was held at the office of Dr. Gibbs, in Epping, and was unusually well attended, considering the state of the travelling.

An interesting paper was presented by Dr. Crittenden, of Plaistow, on Varicosity of the Veins, which elicited some profitable dicussion.

The June meeting was held at Raymond with Dr. Gould, but the weather permitted only a small attendance. Some morbid specimens were presented by Dr. Burnham, on Mitral Ossification, and one on Hydatids of the Liver, with spontaneous cure.

Paper was read by Dr. Gibbs, on Inversion of the Uterus, with adherent placenta and laceration and repair of the perineum.

There have been no accessions to our number during the past year. Several members of the old society were dropped when the organization was effected last September, and the present number is but 10.

That degree of professional courtesy and good feeling that is desirable does not pervade the society, and with which it might be more useful.

REPORT OF MANCHESTER DISTRICT MEDICAL SOCIETY.

BY MARY S. DANFORTH, M. D., SECRETARY.

The meetings of this society held on June 26th, July 31st, were very poorly attended, and nothing of interest was presented. On August 28th, election of new officers. The election was preceded by a discussion upon the failing interest of this society. The new officers, and all present, promised to make a great effort to contribute to the good of the next meeting.

SEPTEMBER 25.

The discussion was upon Asthma, and all present took part. Dr. L. B. Howe presented a pathological specimen finely illustrating the lesions in chronic cystitis. The names of Dr. H. de W. Carvelle, Dr. J. Geyer and Dr. Dodge were proposed for membership.

A communication from the Centre District Society requested delegates to their next semi-annual meeting. Drs. French, Harriman and Danforth were chosen.

A committee of seven was also appointed to revise the Fee-table, and to report at the next meeting.

OCTOBER 30.

The committee on Fee-table asked for more time.

M. W. Russell, M. D., of Concord, was invited to read his paper upon Sewerage, at the next meeting.

Dr. Phelan next read a paper on Diphtheria.

Dr. Towne presented a pathological specimen of kidneys and bladder, showing the condition in chronic tubular nephiritis.

As a delegate to the Centre District Society, Dr. Harriman gave a brief report of their meeting.

NOVEMBER 29.

Dr. Russell, of Concord, read a most able paper upon Sewerage. A vote of thanks was then extended to Dr. Russell for the highly interesting paper.

DECEMBER 25.

Subject of discussion postponed on account of there being so few present.

Dr. How proposed that the society extend an invitation to D. Robertson to read a paper upon "The Effects of Dental Caries on the General Health."

JANUARY 29.

Dr. Robinson, formerly a dentist in Manchester, delivered an address upon the influence of decayed teeth upon health. A very interesting discussion by the physicians and dentists then followed, and thanks were extended to Dr. Robinson.

James F. Richards was proposed for membership, and the society adjourned.

FEBRUARY 26.

Dr. Geyer read an interesting paper upon Dysentery. Dr. Richards was voted a member, and Dr. Robinson proposed as a member.

Election of officers for the ensuing six months was next in order.

President—Ellen French.

Vice-President—H. de W. Carvelle.

Secretary and Treasurer—Dr. M. S. Danforth.

Censors—Drs. L. French, J. F. Richards, D. S. Adams.

Councillors—Drs. C. F. Bonney, L. B. How.

MARCH and APRIL.

No meetings on account of the severe illness of the Secretary.

MAY 28, 1879.

Dr. John Bell read a paper upon the Incompatibilities Found in Prescription Writing. This was followed by a discussion of a very practical and interesting nature.

The next in order was the discussion "Adjournment of the Meetings."

Nearly every one present expressed unwillingness that the society be discontinued, and several present promised to contribute an exercise for the good of the next meeting.

All of which is respectfully submitted.

REPORT OF THE STRAFFORD DISTRICT SOCIETY.

BY THE SECRETARY, C. A. FAIRBANKS, M. D.

The seventy-first annual meeting of this society was held at the American House, Dover, on Wednesday, Dec. 18th, 1878. There were present eighteen members, and Dr. Betton W. Sargent presided and delivered an address on Homœopathic Physicians and the relations of the regular profession to them.

The following officers were elected:

President—Dr. John S. Parker, Lebanon, Me.

Secretary—Dr. Charles A. Fairbanks, Dover.

Treasurer—Dr. Charles A. Tufts, Dover.

Auditor—Dr. Moses R. Warren, Rochester.

Orators for 1879—Drs. Twombly and Fairbanks.

Assignments for the next annual meeting were made as follows:

Pneumonia—Dr. E. S. Berry.

Diphtheria—Dr. J. H. Wheeler.

The Specific Element in Medicine—Dr. M. C. Lathrop.

Typhoid Fever—Dr. S. C. Whittier.

The Nervous System in Disease—Dr. D. T. P. Chamberlain.

Dr. S. C. Whittier made a report on Gynæcology. He advocated the depletion of the uterus in all cases of congestion of that organ by scarification, puncture, or other topical applications. The scarifications or punctures should be made as often as once a week, and from four drachms to an ounce of blood drawn from the cervix uteri. The cuts should be light, but numerous. Afterwards topical applications of moderately stimulating character should be used. He preferred Argenti Nitras 30–50 grains to the ounce of water; to be applied every eight days. Tinct. Iodine, Chromic Acid, and Ferri Chloridi Tinct. are good preparations to use for this purpose, but inferior to Argenti Nitras.

Dr. John W. Parsons read a paper on the Metric System. He alluded to the rapid growth of the system, the advantages to be derived from its universal adoption, and urged all to learn the principles of the system, if not to put it into actual practice. He touched briefly on its history, and in various ways explained its practical use and value. He claimed for it simplicity, uniformity, an unalterable base, multiples and subdivisions in decimals, a mutual relation of units of length, weight and capacity, and a nomenclature expressive of value.

Dr. J. H. Wheeler made remarks on veratrum viride in large doses in puerperal convulsions; of the quick pulse and extremely high temperature in the same disease; and commented on the late appearance after delivery of these symptoms. He had known convulsions to occur three weeks after confinement. Drs. Hall and Stackpole discussed the same subject.

Drs. Stackpole, Whittier, Lathrop, Wheeler, Berry, and Hill gave their experience in cases of Diphtheria, and discussed the treatment of same. Dr. Whittier emphasized nourishment. Dr. Lathrop gave his experience in the use of chloroform. Dr. Wheeler urged the saturation of the system with chlorate of potash when there was a tendency to croup, and the local application of cold water and cold compresses. Dr. Stackpole used potassic chlorate freely. Dr. Berry thought local treatment tended only to prevent septic poisoning.

Drs. L. G. Hill, J. W. Parsons, and M. R. Warren were appointed to draft resolutions relating to the death of Dr. Theodore A. Jewett; and Drs. C. A. Tufts, J. S. Parker, and P. A. Stackpole to take similar notice of the death of Dr. John Morrison.

Dr. S. C. Whittier was appointed to read a paper before the New Hampshire Medical Society, at its annual meeting in June, 1879.

NECROLOGY.

OBITUARY NOTICE

OF

EZRA CARTER, M. D.

BY CHARLES P. GAGE, M. D.

At the request of his son and of many who knew him long and well, and knew him only to love, I have consented to write a brief memorial of one, who for over half a century was a much esteemed member of this ancient and honorable society. The idea of my fitness for this work must have been based wholly on my intimate acquaintance with him as a citizen, neighbor, and physician, for a period of time exceeding forty years. This duty to one I so highly regarded, is to me both sad and pleasing,—sad, since the occasion of its exercise is the death of one of our craft, so good and so noble; pleasing, since I can recount to those who knew him less intimately than I did, and especially to the younger portion of this society, who are now forming their medical character, some of the many virtues and excellent traits of our departed brother. Let me speak of him as I knew him.

Dr. Ezra Carter was the son of Timothy Carter and Judith, his wife, and was born in West Concord, Dec. 27th, 1798.

He was educated at Pembroke Academy, and commenced the study of medicine with Dr. Moses Chandler, of Concord. Subsequently he studied in Boston, where he enjoyed the clinical instructions of Dr. James Jackson.

He attended lectures in New Haven, Conn., and afterward at Bowdoin College, where he received his degree in 1824.

He commenced practice in Concord, N. H., in 1825. In 1826 he removed to the neighboring town of Loudon, but returned in 1828 to Concord, where he continued in the active practice of his profession until within a few years of his death.

In 1836 and 1837 he was a Representative from Concord to the State Legislature, was commissioned Justice of the Peace in 1837, was Physician to the State Prison for many years, and held many town and city offices. In 1844 he was President of the Centre District Medical Society, and in 1852 he was elected President of the New Hampshire Medical Society, in which, since 1826, he had been an active and esteemed member. He leaves one son, Dr. W. G. Carter, of Concord, N. H., to mourn the loss of a most exemplary, kind, and indulgent father. He died suddenly of apoplexy, Jan. 28th, 1879, aged eighty years.

As a general practitioner, Dr. Carter stood deservedly high with his professional brethren and with the community. By a judicious course of reading he kept himself well informed in the medical literature of his time. He had a happy faculty of bringing to bear in any given case the results of his reading and experience, and was always able to sustain his opinions by sound reason and the best authorities.

He early secured, and for a lifetime held, a very lucrative practice. His patrons ranked well in the community as to means and respectability. He was untiring in his investigations of his cases; slow, but uncommonly accurate in his diagnoses. He took the ground that no well devised or rational plan of cure was possible in any case until a sound and correct diagnosis had been made. When that was done, he was able to decide upon and prompt to carry out a judicious course of treatment.

From a long and close observance of the modus operandi of drugs, he acquired uncommon skill in selecting and exhibiting remedies. Being endowed with good common sense, much tact and sound judgment, he early gained the reputation of a safe and successful practitioner. In surgery few were better read or had sounder views of that branch of the healing art than he possessed. He was highly conservative in his practice, and never was known to sacrifice the least probable chance of saving a member, to the desire of gaining a short lived notoriety, by an ostentatious display of a needless operation. He treated all the cases that fell under his care with remarkable success. At any rate, I do not believe there is a single case of deformity extant to advertise his want of surgical skill, and that is much to say of any man of fifty years service.

In obstetrics he was equally successful and deservedly popular. For many years he was the leading physician of Concord and vicinity in that branch of the profession, and the one most frequently called in consultation in difficult cases. It was an almost invariable habit of his to prescribe an enema on first being called to a woman in labor. He once told me he did so for his own comfort as well as for that of the patient.

In the sick room he was a model physician, quiet, gentle, and soothing. He never treated the complainings of the patient lightly or magnified his danger. He possessed in a remarkable degree the power to dispel the fears and forebodings of the sick, and to inspire them with confidence and hope. If he could not restore his patient, he was untiring in his efforts to make his path down to the inevitable grave smooth and pleasant.

Dr. Carter was the most modest and unassuming man I ever met in the profession, never boasting of what he had done or of what he could do, although nature, circumstances, and his own efforts had combined to make him a great physician.

His well balanced and well stored mind, long experience, strict integrity and watchful care of the interests of his consulting brother, as well as that of the patient, brought him in frequent counsel with all the well bred physicians in his neighborhood. That he ever intentionally said or did anything that could in the remotest degree tend to lower the estimate of his physician in the mind of the patient and his friends I do not believe.

He not only believed that the generally accepted written code of medical ethics was to be strictly observed, but that there is a far more extensive unwritten code of minor ethics, which every honest man is bound to practice. This made him a pleasant and safe man to meet.

This is but a brief sketch of the character of one whose good name must forever stand starred on the tablets of our memory, and on the long catalogue of departed brothers of this society. He is gone, and he has left us a glorious example of a good citizen, a pure patriot, an able and zealous physician, and Christian gentleman.

OBITUARY NOTICE

OF

ALEXANDER MAXWELL WINN, M. D.

BY D. W. EDGERLY, D. D. S., OF FARMINGTON, N. H.

Dr. Alexander M. Winn was born in Wells, Me., January 8, 1820. He received an academic education at Elliot Academy, and Maine Wesleyan Seminary, Readfield, and afterward applied himself to the study of medicine, and attended three full courses of lectures: two at Brunswick, Me., and one at Hanover, N. H. He graduated from the Medical Department of Dartmouth College, in 1846, of a class of thirty. Among them were Elijah Hawley Wright, from Amherst College, John Eugene Tyler, of Massachusetts, and Peter Y. Frye, of Oyster Bay, L. I.

Dr. Winn commenced practice at New Durham, N. H., about 1847. He afterward removed to Newfield, Me., in 1849, and from there to Farmington, N. H., in 1856, where he remained until 1864, when he was commissioned Assistant Surgeon of the 118th U. S. C. I., and was ordered in charge of the Hospital at Point of Rocks, Va.; after which he joined his regiment at Brownville, Texas, when he was ordered to Brazos, as Surgeon in charge of the hospital, where he remained until his final discharge at the close of the war, in April, 1866.

After returning to his home in Farnmington, he removed to Manchester, N. H., where he remained until about 1874, when he was commissioned Surgeon of the National Soldiers' Home, at Togus, near Augusta, Me., where he remained until April, 1878, when he resigned, and resumed the practice of his profession in China, Me. Dr. Winn died at China, Me., January 5, 1879. His medical council in his last sickness was Dr. Eri H. Winn, of South China; Dr. Wilson, of Albion; Dr. Hawes, of Hallowell; and Dr. Crosby, of Waterville.

After returning from the army, Dr. Winn was constantly affected with malarial poisoning, contracted while in the service, taking at times an asthmatic form. He became prematurely gray, or whitened, or anaemic complexion; which appearance, connected with a full, well proportioned, manly form, gave to him a venerable and noble bearing.

Dr. Winn, while a resident of this state, became eminent as a Free Mason, filling high offices in the order, and in 1878–9 he was Grand Master of the Grand Lodge of New Hampshire, filling said position with marked ability and dignity.

The sudden death of Dr. Winn, which we learned from his intimate friend, Dr. J. Q. A. Hawes, of Hallowell, Me., was caused from malarial poisoning. He was confined to his house less than a week. Dr. Hawes, in a letter to the writer, speaks of Dr. Winn so truly and to the point, that we herewith enclose his kind and meritorious remarks: "Dr. Winn came to the Soldiers' Home, at Togus, an entire stranger to us all. I chanced to meet him a few months after his entering on his duty, and was impressed with his manly physique and gentlemanly bearing. He seemed to be matured as a medical man, and a most genial and courteous gentleman to all with whom he became associated. As an *executive officer* he had few equals. He was quick to perceive, firm in his decisions, yet kind and considerate in administering the various duties devolving upon him. His record in the treatment of patients, both medical and surgical, compare well with that of similar institutions. As an operator he was unusually successful, and not only while at the Soldiers' Home, but after resuming private practice, performed several operations with more than ordinary success. He was made an honorary member of the Kennebec County Medical Association, and manifested a lively interest in its welfare. * * He had been a resident of China but a few months at the time of his death, but as an eye witness I can truly say, that the community in which he resided had become much attached to him, and sincerely mourn the loss of their friend and esteemed physician."

Dr. Winn leaves a wife, Maria D. Winn, who was the daughter of Frank Hayes, Esq., of Alton, N. H.; and an only son, Dr. Eri H. Winn, who read medicine with his father, and Dr. Bartlett, of Rowley, Mass., and graduated at Darmouth College Medical Department in 1876.

OBITUARY NOTICE

OF

ADOLPH L. TREMBLAY, M. D.

BY H. C. CANNEY, M. D.

Dr. Tremblay was born in the Parish of St. Edwards, County of Navervill, P. Q. He received his preliminary education at the Montreal Normal School, studied medicine in the office of Dr. Ensingeor, of West Chazie, N. Y, and graduated at the Albany Medical School, class of 1867. He commenced the practice of his profession in the city of Manchester, N. H., March, 1868. The French Canadian population of Manchester at that time being about two thousand seven hundred, many of whom could not speak English, he had no long and weary waiting for business, but immediately obtained a large and lucrative practice.

Dr. Tremblay was a man of remarkable decision of character and firmness of purpose, yet quiet and unassuming in his manners, and social and friendly in disposition. He was a regular attendant at the French Catholic Church of St. Augustine, the existence of which was largely due to his energy, liberality, and public-spiritedness. He continued to do a large and increasing business, having the confidence of the community and the respect of his competitors, until, in the spring of 1877, failing health compelled him to retire from active practice, and thinking that change of scene and occupation might benefit him, he purchased about one thousand acres of land in the province of Manitoba, eighteen miles north of the Minnesota border, and farmed, fished, and hunted during that spring, summer, and autumn. At the commencement of cold weather, feeling that he had regained his health, he returned to Manchester and resumed practice. After about fourteen months

of active work his health again failed. He had intense pain in his back and limbs, and as the disease progressed the loss of his mental powers became more and more marked, until after twenty weeks of almost constant suffering, he died of carcinoma of the lumbar vertebræ, May 12, 1879, aged thirty-three years, two months. In his death this society lost a member who had its well-being at heart, and never forgot its code of ethics.

OBITUARY NOTICE

OF

TIMOTHY F. KENRICK, M. D.

BY M. C. LATHROP, M. D.

Dr. Timothy F. Kenrick was born in Franklin, N. H., July 8th, 1849, and died at Naples, Italy, January 29th, 1879, in his thirtieth year, of typhoid fever.

He inherited a family history, from both parents, of considerable local distinction; Ebenezer Blanchard, his maternal grandfather, being a prominent citizen of Franklin half a century ago.

His general education was conducted in his native town and at Dartmouth College, whence he graduated in 1871, and in 1874 received the degree of M. D. from the Long Island Medical College, and the same year was made a fellow of this society. Soon after graduating he entered upon the duties of Assistant Physician at the Sanford Hall Asylum for the Insane, at Flushing, Long Island, where he remained until called to a similar, but more responsible position in New York State Asylum, at Utica, where "he performed the duties of his position with signal success and acceptance till March, 1878, when he left for Europe as the medical attendant of a gentleman who had been under his care in the institution.

"While abroad he travelled through England, Scotland, France, Germany, and Italy, visiting hospitals and asylums, and making careful and intelligent observations. The opportunities he enjoyed were fully appreciated as a means of advancement in the chosen field of labor to which he was so ardently devoted. He spent some weeks in Rome during the winter, in visiting the city and the catacombs, and having exposed himself to the miasmatic influences which there exist, contracted typhus, the fever so justly dreaded by all, both resident and stranger. Leaving Rome, he was pros-

trated in Naples, but after a week so far convalesced that he was able to be about, then relapsed and died after some three days.

"His body was embalmed, an dreached the home of his parents in March, where the funeral was attended on the 26th of that month.

"Prof. H. E. Parker, of Dartmouth College, a former instructor and life-long friend, delivered an address, in which he justly eulogized the life, character, and attainments of our friend.

"The various relations of his life as a son, a brother, a friend, and physician he filled with a perfection rarely found, as he possessed in a marked degree those elements which inspired love, regard and confidence.

"His conspicuous cheerfulness was the outgrowth of his perfect state of health, and a natural disposition which caused him to look upon the bright side of every subject.

"He was frank and outspoken in his views, but never offensive in his expression of them. He had trained himself to a self-control and self-reliance far beyond that of most men of his years. Always prompt, always to be trusted, he gained the full respect and confidence of those with whom he was associated.

"His character was strong in its exemplification of the principles of honesty and integrity, on which it was founded.

"His life was beautiful in its loving kindness and truthfulness. Every one was his friend. Living, he was beloved by all; and dead, he is mourned by all who knew him."

OBITUARY NOTICE

OF

MARK WALKER, M. D.

BY JOHN WHEELER, M. D., OF PITTSFIELD.

Among the fellows of this society who, during the past year, have yielded to the King of Terrors, is Dr. Mark Walker, a native of North Barnstead, and resident physician there for the past twenty-four years. He was the son of Samuel and Ruth Walker, and was born December 18th, 1826. His father, a respectable farmer, died in his boyhood, and he was left to choose his own course in life. He determined to obtain a good education, and was successful in his purpose, using his moderate patrimony, supplemented by his earnings from teaching school, and also music and penmanship, for which he had special talent.

He was fitted for college at Gilmanton Academy, and entered Dartmouth College in 1849, but did not pursue the course. Instead, he commenced the study of medicine with Dr. Albert G. Weeks, of his native place, and was subsequently a student with Dr. Ira Russell, of Winchester, Mass. He attended medical lectures at Dartmouth in 1851, and two courses at Jefferson Medical College, Philadelphia, where he received his degree in 1854.

During the following year he succeeded in practice, at North Barnstead, his deceased cousin, Dr. William Walker, and became a member of this society in 1856. In 1863 he married Addie S. Perkins, who, with a son and daughter, survives him.

Commencing practice with a full business, he sustained himself well and held the respect and confidence of his patrons to an unusual extent to the close of his life. Dr. Walker was a good physician; carefulness and extreme faithfulness being the qualities for

which he was particularly valued. He was never boasting of brilliant acts, or lamenting over disasters, but performed his duties in a deliberate, thoughtful, and quiet manner, and was very successful in results. As a professional neighbor he was without fault. As a citizen he was very popular, for he studiously avoided doing or saying anything that might wound the feelings of another. He was a man of few words, very cautious in giving opinions, and did not indulge in frivolous conversation. The mention of his name where he was well known was very sure to evoke the commendatory expression, " Dr. Walker is a nice man."

He was a long time Superintendent of Schools in his town, and represented it in the legislature two years. He was well versed in the mystic rites of Free Masonry, and held high positions in that fraternity. He respected religion, supported and attended public worship, but was not a communicant of any church. His life was not marked by striking deeds or events, but was one of steady, meritorious effort—hard work with little of vacation or recreation.

During last autumn and the first of the winter his professional duties were harder than ever; added to these was great anxiety on account of the severe and protracted illness of his wife, to whom he was fondly devoted, and also the culmination of financial misfortune, by which most of his hard earned savings were swept away, in consequence of becoming surety for a friend. He bore these trials with patience and silence, but the burden was too heavy for a constitution not strong. Failure manifested itself first by sciatica of the left side,—the pain of which in such conditions as his, has been well termed "the prayer of the nerve for better nutrition." He rode several weeks after he was obliged to have an attendant and use a crutch and cane. The wearing pain, and the opiates which he felt compelled to use for its alleviation, nearly destroyed his appetite and sadly deranged the alimentary canal. Nutrition thus impaired, was followed by emaciation and general functional debility. The blood, under the microscope, showed large increase of white corpuscles. Inability for continued thought, signs of aphasia and delirum were the successive cerebral symptoms. There was no paralysis. Treatment entirely failed to check the persistent downward tendency of the patient, he seemed to have no recuperative power left. He sunk with general exhaustion, and died May 30th, 1879, after a confinement of more than three =

months. He was visited by Dr. Parker, of Farmington, Dr. Ham, of Barnstead, the writer, and less frequently by several other physicians.

Reviewing the course of Dr. Walker, with which I was well acquainted, I feel that there were few acts in his useful life that may not be garnered with the good.

OBITUARY NOTICE

OF

Thomas Benton Dearborn, M. D.

BY S. M. DINSMOOR, M. D., OF FRANCESTOWN.

It has been the custom for many years, when members of our society pass the "dark river," to record, in the transactions for the year, an obituary notice, and custom and duty both make it obligatory upon us to recall the memory of our departed friends and associates, to commemorate their virtues and recount their acquisitions in our progressive science. Every returning anniversary, like the present occasion, reminds us of change,—the faces which we have been accustomed to meet for many years are passing away, one by one, for the law of nature and the command of inspiration unite in the verdict that death must pass upon all men.

It is with sincere grief that we announce the death of our friend and associate, Dr. Thomas Benton Dearborn, who died at his home in Milford, June 10, 1879, aged forty years and six months. Dr. D. was a native of Northfield, N. H.; born in September, 1838. He was a member of the famous family of physicians, being the youngest son of Edward and Sarah Gerrish Dearborn.

He early commenced a classical course of study at the Seminary at Tilton, N. H. In 1855 he removed to Illinois with his parents, and joined the preparatory department of the college at Jacksonville. He graduated at the State University of Indiana, in 1861. While prosecuting his studies, he engaged considerably in teaching, and was employed as principal of the High Schools of Augusta and Carthage, Ill. He studied medicine with his uncle, Dr. Jonathan Dearborn, of Mount Sterling, Ill., and also with his elder brother, Dr. S. G. Dearborn, of Nashua. After attending medical lectures at Burlington, Vt., and at New York city, he entered the

Medical Department of Dartmouth College, where he graduated in 1864, and soon after established himself in the practice of his profession in Milford, and pursued it with untiring devotion and eminent success until disabled by illness.

In December last he journeyed to Illinois, seeking respite from exhausting professional labor. When returning, in January, in improved health, the train in which he was a passenger was wrecked near Buffalo, N. Y., and he received considerable injury, which, with the detention and exposure consequent, induced an attack of pneumonia, and subsequently serious lung disease. The shock was so great as to finally result in spinal paralysis and death.

On the 25th of September, 1873, he was married to Miss Kate L. Hutchinson, only daughter of the late Judson Hutchinson, of the renowned Hutchinson family of singers, who survives him. They were blessed with four children, all boys, the youngest being but a few weeks old at the time of his father's death.

Thus has closed a career notably important in its public relations. It is no exaggeration to say that he *won* and *held* a very high rank both as physician and surgeon. His practice was extensive, and its demands upon his time and strength exacting, but he spared no energy in responding to its calls. The amount of professional labor which he performed has been seldom equalled in the history of medical practice in New Hampshire, often requiring the use of five and six horses. He was gifted by nature with keen discrimination and perception. With an acute intellect, he had educated himself thoroughly for his profession, and with a pressure of business appalling to one of less physical strength and application, he kept himself, by continuous study, fresh in its latest sciences.

He never pushed himself, was utterly devoid of boast or bluster, never had occasion to publish his merits by charlatan tricks, but simply and quietly moved with the directness and assurance of conscious power. He was never tardy, but responded with the same promptness to all demands upon him for service as cheerfully for the poor as the rich. To a large share of the community within his circles of practice his loss will seem irreparable.

Dr. Dearborn was, in the largest sense, a *practical* man; and I have sometimes thought, when holding consultations with him, that his powers of observation were remarkable. He seldom gave an

equivocal opinion, or qualified his statements with superfluous "ifs." He seemed to see, at a glance, all the symptoms of the case, and rapidly formed his conclusions as to diagnosis, prognosis, and treatment, and seldom had occasion to change his first impressions. He gained in a large degree the confidence of his patrons, for he had a well balanced mind, active and energetic, and was in full possession of that peculiar and happy combination of mental endowments usually denominated "good common sense."

He possessed social qualities in an eminent degree, with excellent conversational powers, and a very large fund of humor, and was a genial companion, as well as a warm hearted and true friend. Those who know him best unite in saying that in all the relations of life he was honorable, upright, and conscientious.

He was trained in the faith of the Democratic party, believed in its ideas, and though never obtrusive in an expression of his political views, he held them unswervingly and conformed his action thereto. The party, to which he was attached, supported him in 1876 and '77 as its candidate for State Senator in the Seventh District.

In his wasting and distressing illness he found all his solace and strength in an humble faith in the Lord Jesus Christ, committing himself in hope to Him who is the "Resurrection and the Life."

But he has gone from the places and scenes that have known him so well, in the prime of manhood, leaving to a wide circle of friends the memory of a good citizen and "beloved physician," and to kindred and family that of one who, as a son, brother, husband, and father, was ever loving, faithful, and true.

"To know, to esteem, to love—and then to part.
Makes up life's tale to many a feeling heart."

OBITUARY NOTICE

OF

Theodore H. Jewett, M. D.

BY T. J. W. PRAY, M. D., DOVER, N. H.

It is a sad, and yet a grateful pleasure to record a few words in memory of my former instructor and life-long friend, Dr. T. H. Jewett, late of South Berwick, Me. Although the subject of this necessarily brief notice was not an active member of this society, yet, living on the border lines of our state, sharing largely in its medical business, and taking a deep interest in the weal of our medical men, it is highly proper that a sketch of his life be recorded in our proceedings. Besides, he was an honorary member of this society.

Dr. Theodore Herman Jewett, son of Theodore F. and Sarah O. Jewett, was born in South Berwick; but he spent his childhood in Portsmouth, in this state. His father, after reaping the fruits of his business as a successful navigator, returned to his home with his family, and for the most of his life, Dr. Jewett lived in or near his paternal residence. He was born to an inheritance of good qualities in being the son of excellent parents. His early education was obtained at the Academy in South Berwick, and at Portsmouth.

He was fitted for college at the age of fifteen years, and graduated at Bowdoin College in 1834. Soon after his collegiate course, he engaged in the study of medicine with Dr. Perry, of Exeter, and then, with Dr. Winslow Lewis, of Boston, Mass. He attended lectures at Hanover, Boston, and Philadelphia, and took his degree of Doctor in Medicine in 1840, at the Jefferson Medical School.

His tastes and talents sought some broader field for his professional career, but on account of the sudden death of two brothers, in the prime of life, his father would not listen to his leaving home,

and through his filial affection, he was induced to locate in his native village. Unlike many who seek patronage in the scenes of childhood, he immediately stept into a remunerative practice. He obtained reputation and prestige at once as being a studious and intelligent physician, and his former school-mates generously accorded to him their support and influence. His genial nature and fine mental endowments placed him in the front rank among his professional brethren. "Confidence," remarks Burke, "is a plant of slow growth," but this was not true in this instance. He gained confidence without solicitation or extraneous aid. His warm address, and his estimable conversational powers had much to do towards his success. He was full of healthy humor and generous sentiment. At the bed side, or in the social circle he was ever ready with fitting anecdote, that would enliven the sick room, disarm doubt, animate the hearts of the desponding, and beget respect and love. He was an agreeable friend and companion, a ready counsellor, a skillful physician and surgeon. He was conscientious, reliable, and always tenacious of matured opinions, whether in religion, politics, or medicine.

But his fame and good qualifications were not confined to his own immediate neighborhood. He, from the first, steadily grew into reputation in surrounding towns, in this and his own native state. During the war he was appointed to the position of Provost Surgeon of the First District of Maine, at Portland; and afterwards held the appointment of Professor of Obstetrics and Diseases of Women and Children at the Bowdoin Medical College. He was an active member of the Maine Medical Society, and in 1878 became its President. He belonged to the Strafford County Medical Society, to the New Hampshire Medical Society, was a member of the Maine Historical Society, and Consulting Surgeon of the Maine General Hospital. Besides these, he occupied, at one time and another, different positions of trust and honor, all of which he filled with credit and to the satisfaction of all.

As a physician, Dr. Jewett excelled. His field of observation was large and varied, and he made good use of his opportunities. His reading was careful and extensive, and he had the habit of culling from the authorities consulted every thing that would assist him in his profession. He kept pace with the times. Every new improvement, be it in therapeutics, obstetrics, or surgery, received

his support. He did not break away from the past, nor did he believe every thing that should work for the elevation of his profession was contained in the speculations of the present. His motto was, "Try all things, and hold fast to that which is good." He was an earnest worker for professional success, and he labored diligently to educate and exalt the vocation of the physician. Accordingly, he abhorred all pretences, all those surface accomplishments which are often passed off for substantial worth. Nor could he patiently bear with those who think that all wisdom lies garnered up in their unfruitful brains. And yet, where merit lay, he was sure to give the full meed of praise. But he disliked those retailers of their own deeds who strive to bolster up their own reputations at the expense of others. All "Sir Oracles," all shams and fictitious pretence he abhorred.

In his later years he had a very large consulting practice, both in the eastern part of this state, and the western portion of Maine. By his affable manners, his kind and sympathizing intercourse with the sick and suffering, and his manly Christian character, he won numerous friends. His influence and standing increased from year to year, and the last years of his life were crowned with a higher appreciation of his worth, as a man and a safe physician. In long cases of sickness, as well as in acute troubles, he was often sought after.

Dr. Jewett was fortunate in his domestic relations. He was married in 1842 to Caroline F., daughter of William Perry, M. D. His playful disposition made his home happy and cheerful. Here was the place of his rest and of his pride, where he built up to maturity a strong and noble character, which gave help and hope to others. He left a wife and three worthy daughters,—his whole family,—one of whom is the talented author of "Deephaven."

Dr. Jewett died suddenly at the Crawford House, White Mountains, where he had gone to seek that repose so needful to the exactions of a long professional life. He has gone to the unseen world.

We "stay a little longer as one stays
To cover up the embers that still burn."

PROCEEDINGS

OF THE

EIGHTH SEMI-ANNUAL MEETING OF THE N. H. MEDICAL SOCIETY.

The New Hampshire Medical Society held its eighth semi-annual meeting at Hanover, Wednesday and Thursday, Sept. 17 and 18, 1879. The members and ladies met at Philosophical Hall, Wednesday, at 3 o'clock P. M., with the President, Dr. T. J. W. Pray, of Dover, in the chair.

An address of welcome was given by Prof. C. P. Frost in behalf of the College Faculty, after which there was a fine display of microscopical preparations by the solar microscope, conducted by Prof. L. B. How. An hour was next spent in visiting the college buildings, museums, and libraries.

At 5:30 o'clock, the members re-assembled in Philosophical Hall and listened to a most valuable and interesting paper by O. P. Hubbard, LL. D., upon the life and times of Dr. Nathan Smith. On motion of Dr. J. H. Wheeler, of Dover, it was unanimously voted to extend the thanks of the society to Dr. Hubbard for his paper, and solicit a copy of the same for publication in the current volume of our transactions.

Supper was served at 7:30 o'clock, at Dartmouth Hotel, after which the members were entertained by toasts by the Anniversary Chairman, Dr. F. A. Stillings; and responses by Drs. Ordroneaux and Conner of the College, and Cotting, of Boston.

The society received cordial invitations to receptions in the evening, from Mrs. Dr. Dixi Crosby, and Dr. C. P. Frost. The invitation of Mrs. Dixi Crosby was gratefully accepted by the members of the society, who gladly availed themselves of the opportunity to visit the old-time home of Drs. Dixi and A. B. Crosby, two members who added so much to the honor and reputation of our society.

At Dr. Frost's we met the College Faculty and families, many citizens and medical students. We were most cordially received by our host and hostess, and the occasion was a most enjoyable one.

Thursday morning the society met at the lecture-room of the Medical College, and listened to an interesting address by Prof. Dunster, on Anæsthetics and their discoverer.

This closed the public exercises of the session.

M. W. RUSSELL, *Secretary.*

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TRANSACTIONS

OF THE

N. H. MEDICAL SOCIETY,

AT ITS

Ninetieth Annual Session,

HELD

AT CONCORD, N. H., JUNE, 1880.

CONCORD:
PRINTED FOR THE SOCIETY BY EVANS & SLEEPER.
1880.

PROCEEDINGS

OF THE

NEW HAMPSHIRE MEDICAL SOCIETY.

MORNING SESSION.

TUESDAY, June 15, 1880.

The Ninetieth Annual Meeting of the New Hampshire Medical Society was held in Phenix Hall, in Concord, Tuesday, June 15, 1880, the president, Dr. Thomas J. W. Pray, of Dover, in the chair. Prayer was offered by Rev. D. C. Roberts, of Concord. The record of the last meeting having been published and distributed, the reading of the same was omitted.

The following committees were appointed by the chair:

On Reception of Delegates: Drs. Crosby of Concord, Wheeler of Pittsfield, Parsons of Portsmouth.

On Auditing Treasurer's Account: Drs. Wheat of Manchester, Weymouth of Andover.

To Examine and Report on Patients: Drs. Frost of Hanover, Hill of Dover, Eastman of Hampstead, Adams of Manchester, Parker of Farmington.

To Report on the Time and Place of Semi-Annual Meeting: Drs. Cook of Concord, Stackpole of Dover, Fowler of Bristol, Dearborn of Nashua, Whittier of Portsmouth, Towne of Manchester, Tolles of Claremont.

The report of the Council was read by the secretary, Dr. Russell of Concord.

REPORT OF THE COUNCIL.

CONCORD, June 14, 1880.

The Council met at the office of Drs. Gage & Conn, at 8 : 30 o'clock P. M., and was called to order by Dr. A. H. Crosby of Concord, chairman.

The following members answered to their names on the calling of the roll :

Drs. A. H. Crosby, J. R. Coggswell, S. C. Whittier, S. W. Davis, H. A. Weymouth, D. P. Goodhue, John Wheeler, G. C. Howard, L. M. French, W. T. Smith, and F. A. Stillings.

The following gentlemen acted as substitutes for members unable to be present :

Dr. S. M. Dinsmoor for Dr. H. B. Fowler, Dr. C. P. Gage for Dr. J. W. Parsons, Dr. George Cook for Dr. I. A. Watson, Dr. A. H. Robinson for Dr. S. P. Carbee, Dr. G. P. Conn for Dr. E. F. McQuesten.

The secretary presented the applications for membership of the following physicians :

Dr. H. F. PITCHER, of Milton.
Dr. G. H. HAWLEY, of Barnstead.
Dr. ALFRED E. EMERY, of Fisherville.
Dr. M. T. STONE, of Troy.
Dr. G. H. CALLEY, of Bristol.
Dr. W. H. PATTEE. of Loudon.
Dr. GUY H. GARDNER, of Great Falls.
Dr. GEORGE W. HATCH, of Wilton.
Dr. JOHN W. PRAY, of East Northwood.
Dr. EDRIC A. WADE, of Salem Depot.
Dr. SHADRACH C. MORRILL, of Concord.
Dr. GEORGE H. SANBORN, of Henniker.
Dr. OTIS FRENCH HAM, of North Barnstead.
Dr. J. N. BUTLER, of Lempster.
Dr. HENRY M. FRENCH, of Concord.

After due consideration it was voted unanimously, that the above named physicians be proposed for membership.

The name of Dr. A. H. Arey, of Webster, was referred to the Censors, with the provision that if he received a license from them he shall be considered proposed for membership.

Upon his application, Dr. Jose Pereira Rego Filho, Secretary of Imperial Academy of Medicine, Rio de Janerio, Brazil, was proposed by the Council for Honorary Member.

Written requests were presented from Drs. Harrison Eaton of Thornton's Ferry, and L. M. Whipple of New London, to be placed on the retired list.

Voted, That their requests be granted.

Dr. Cook, secretary of the Board of Censors, made the following report:

CONCORD, June 14, 1880.

The following licences were granted by the Censors of the New Hampshire Medical Society:

DATE.	NAME.	RESIDENCE.	WHERE GRADUATED.	DATE.	BY DR.
1879.					
July 2.	John B. Andrews	Great Falls,	Dartmouth,	1874	Hill.
24.	Eli G. Jones,	Bethlehem,	Dartmouth,	1871	Cook.
Aug. 5.	Alfred E. Emery,	Fisherville,	University of Vermont,	1865	Cook.
9.	J. A. Jackson,	Franklin Falls,	University of Vt. and Mc Gill, Montreal,	1863 1879	Board.
13.	James Pitts.	Dover,	Glasgow Univ'ty and Royal Coll. of Surgeons, Edinburgh.	1867	Hill.
13.	John W. Pray,	Dover,	Harvard,	1879	Hill.
27.	Geo. A. Peavey,	Moultonboro',	Harvard,	1879	Cook.
Oct. 2.	C. T. George,	Goffstown,	Coll. of Physic'ns and Surgeons, N. Y. City.	1865	Adams.
1880.					
Jan. 6.	D. G. Hall,	Great Falls,	Harvard,	1879	Hill.
12.	J. N. Woodward,	Nashua,	Dartmouth,	1879	Cook.
14.	G. H. Gardner,	Somersworth,	Harvard,	1879	Cook.
Feb. 3.	G. A. Lacerte,	Manchester,	Univ'ty of Victoria,	1879	Adams.
5.	Aaron Worthley,	Manchester,	Caselton Med. Coll.	1857	Adams.
16.	G. A. Robbins,	Alstead,	Yale,	1879	Cook.
16.	W. B. Porter,	Walpole,	Dartmouth,	1852	Cook.
19.	M. T. Stone,	Troy,	Dartmouth,	1879	Cook.
Mar. 3.	E. A. Wade,	Salem Depot,	Harvard,	1879	Adams.
18.	C. W. Wilkins,	Manchester,	Coll. of Physic'ns and Surgeons, N. Y. City.	1880	Adams.
Apr. 16.	E. A. Aldrich,	Manchester,	Harvard,	1868	Adams.
29.	F. W. Mitchell,	Manchester,	Coll. of Physic'ns and Surgeons, N. Y. City.	1880	Adams.
May 3.	G. H. Colby,	Bristol,	Coll. of Physic'ns and Surgeons, N. Y. City.	1880	Cook.
10.	G. W. Hatch,	Wilton,	Dartmouth,	1879	Cook.
10.	Geo. H. Monk,	Seeking location,	McGill, Montreal,	1875	Hill.
17.	W. R. Prime,	Manchester,	University of N. York,	1879	Adams.

Respectfully submitted,

GEORGE COOK, Secretary of Board.

Dr. Dinsmoor, of Francestown, offered the following resolution:

Resolved, That the N. H. Medical Society offer a prize, not exceeding fifty dollars, for the best essay on some subject connected with medicine or surgery,—the conditions of which be determined by a committee of three, to be appointed by the Chair for that purpose; and that said committee be instructed to report before the close of the present meeting.

Voted, To recommend the adoption of the resolution by the Society.

The committee on Revision of the By-Laws reported as follows:

First. To strike out of Article III, Sec. 3, in third line, the words "shall appoint two or more members to read dissertations at each annual meeting."

Second. To strike out the whole of Sec. 4, Article X.

Voted, To accept the report, and recommend its adoption by the Society.

On motion of Dr. S. C. Whittier, of Portsmouth, voted to adjourn.

The secretary was instructed to deposit the list of names of the physicians recommended by the Council for membership as the ballot of the Society, and the gentlemen named therein were declared elected members of the Society.

Dr. Crosby of Concord, from Committee on Reception of Delegates, introduced Dr. Ira A. Russell and Dr. George W. Gay of the Massachusetts Medical Society, and Dr. George Davenport of the Vermont Medical Society, and on motion they were invited to take part in the proceedings of the Society.

At 12:00 o'clock the president, Dr. T. J. W. Pray, of Dover, delivered the annual address. His subject was Diphtheria. The address was able and interesting, and was listened to with marked attention.

The thanks of the Society were extended to the president for his oration and it was referred to the Committee on Publication.

Dr. W. T. Smith, of Hanover, then delivered a very interesting oration on Suspended Animation.

The paper was referred to the Committee on Publication, and at 1 : 45 P. M., the society adjourned for the banquet at Phenix Hotel.

AFTERNOON SESSION.

At 4 : 30 o'clock, the afternoon session was called to order, and the reading of papers was resumed.

Dr. M. W. Russell, of Concord, read an essay entitled, "The Province of Medicine," prepared by Dr. M. C. Dix, of Hinsdale, who was unable to be present.

Dr. L. B. How, of Manchester, read an interesting essay on "Surgical Cases," being a history of several cases in his own experience.

Dr. F. A. Stillings, of Concord, read an excellent essay on "Melancholia and Its Connection witn Ancient and Modern Suicides."

The above papers were referred to the Committee on Publication.

Dr. Crosby, of Concord, of the Committee on Semi-Annual Meeting, reported that it was proposed to hold the meeting in the form of an excursion to the Pemigewasset House, and a trip around Lake Winnipesaukee, sometime in September next,—members of affiliating societies in this state, and members of the Essex North District Medical Society, of Massachusetts, to be invited to accompany the Society. The report was adopted.

Dr. Gay, of Boston, Mass., addressed the Society, describing a method in the treatment of hernia in use by him, which has proved very successful.

The report of the Council in regard to the revision of the By-Laws was considered, and adopted.

At 6 : 40 o'clock an adjournment was taken to 8 o'clock in the evening.

EVENING SESSION.

The evening session was held in the parlors of Phenix Hotel, and was called to order at 8 : 20 o'clock, and the report on Necrology was presented by Dr. Hill, of Dover.

Obituary notices of members who had died during the year past were read.

The secretary read a paper on Dr. Nathaniel Tolles, of Claremont, prepared by Dr. J. L. Swett, of Newport; Dr. Cook, of Concord, a paper on Dr. A. R. Dearborn, of Concord; Dr. Fowler, of Bristol, a paper on Dr. D. E. Wells, of Hill; Dr. Conn, of Concord, a paper on Dr. A. C. Whipple, of Ashland; Dr. Crosby, of Concord, a paper on Dr. B. E. Harriman, of Concord.

The above papers were referred to the Committee on Publication.

Dr. Crosby, of Concord, reported a case of strangulated hernia; Dr. Russell, of Concord, a case of heart disease; Dr. Hill, of Dover, a case of inverted uterus,—all of which were discussed by the members.

Dr. Hill, of Dover, moved that the resolution of Dr. Dinsmoor, to offer a prize, not exceeding $50, for the best essay on some subject connected with medicine and surgery, be taken up.

The resolution was amended so as to confine the offer to members of the society, and in this form adopted; and Drs. Dinsmoor, Crosby and Greeley were appointed by the Chair to report the conditions of the prize at next annual meeting.

Adjourned to 8 o' clock A. M., Wednesday.

MORNING SESSION.

WEDNESDAY, June 16, 1880.

The session was called to order at 8 : 20 o'clock. The reports of delegates to the different societies were received, and ordered to be printed.

At 9 o'clock,the society proceeded to the election of officers for the ensuing year, and the following were elected :

PRESIDENT.

Dr. GRANVILLE P. CONN, of Concord.

VICE-PRESIDENT.

Dr. HADLEY B. FOWLER, of Bristol.

SECRETARY.

Dr. MOSES W. RUSSELL, of Concord.

TREASURER.

Dr. LYMAN B. HOW, of Manchester.

EXECUTIVE COMMITTEE.

Dr. J. W. PARSONS, of Portsmouth.
Dr. A. H. CROSBY, of Concord.
Dr. P. A. STACKPOLE, of Dover.

COUNCIL.

Dr. S. C. WHITTIER, of Portsmouth.
Dr. F. A. STILLINGS, of Concord.
Dr. G. C. HOWARD, of Salem.
Dr. J. C. WHEAT, of Groton.
Dr. J. R. COGGSWELL, of Warner
Dr. S. W. DAVIS, of Plymouth.
Dr. L. M. KNIGHT, of Franklin.
Dr. G. P. GREELEY, of Nashua.
Dr. D. P. GOODHUE, of Springfield.
Dr. I. A. WATSON, of Groveton.
Dr. S. P. CARBEE, of Haverhill.
Dr. L. M FRENCH, of Manchester.
Dr. P. A. STACKPOLE, of Dover.
Dr. W. T. SMITH, of Hanover.
Dr. C. T. LESLIE, of Sunapee.
Dr. T. M. GOULD, of Raymond.
Dr. W. D. CHASE, of Peterborough.
Dr. C. F. BONNEY, of Manchester.
Dr. C. W. HANSON, of Northwood.
Dr. G. L. MASON, of Laconia.

CENSORS.

Dr. GEORGE COOK, of Concord.
Dr. J. C. EASTMAN, of Hampstead.
Dr. D. S. ADAMS, of Manchester.
Dr. L. G. HILL, of Dover.
Dr. E. F. McQUESTEN, of Nashua.
Dr. J. W. PARSONS, of Portsmouth.
Dr. ALBERT C. BUZZELL, of Amherst.
Dr. J. H. WHEELER, of Dover.
Dr. C. W. TOLLES, of Claremont.
Dr. J. M. FRENCH, of Campton.

The Executive Committee reported as follows :

COMMITTEE OF ARRANGEMENTS FOR THE ANNUAL MEETI

Dr. F. A. STILLINGS, of Concord.
Dr. W. G. CARTER, of Concord.
Dr. S. C. MORRILL, of Concord.

COMMMITTEE ON THE SEMI-ANNUAL MEETING.

Dr. S. W. DAVIS, of Plymouth.
Dr. G. D. TOWNE, of Manchester.
Dr. GEORGE COOK, of Concord.
Dr. S. C. WHITTIER, of Portsmouth.
Dr. E. S. BERRY, of Dover.

ANNIVERSARY CHAIRMAN.

Dr. C. A. TUFTS, of Dover.

ORATORS.

Dr. M. H. FELT, of Hillsborough.
Dr. JOHN WHEELER, of Pittsfield.

SUBSTITUTES.

Dr. A. P. RICHARDSON, of Walpole.
Dr. GEORGE L. MASON, of Laconia.

COMMITTEE ON SURGERY.

Dr. A. H. CROSBY, of Concord.

COMMITTEE ON MEDICINE.

Dr. SILAS W. DAVIS, of Plymouth.

DELEGATES TO DARTMOUTH COLLEGE.

Dr. G. P. GREELEY, of Nashua.
Dr. A. W. ABBOTT, of Sanbornton.

COMMITTEE ON NECROLOGY.

Dr. L. G. HILL, of Dover.

DELEGATES TO MAINE MEDICAL SOCIETY.

Dr. J. R. HAM, of Dover.
Dr. W. G. CARTER, of Concord.

DELEGATES TO VERMONT MEDICAL SOCIETY.

Dr. A. B. HOYT, of Grafton.
Dr. I. A. WATSON, of Groveton.

DELEGATES TO MASSACHUSETTS MEDICAL SOCIETY.

Dr. T. J. W. PRAY, of Dover.
Dr. GEORGE COOK, of Concord.

DELEGATES TO NEW YORK MEDICAL SOCIETY.

Dr. D. S. ADAMS, of Manchester.
Dr. M. C. LATHROP, of Dover.

DELEGATES TO THE RHODE ISLAND MEDICAL SOCIETY.

Dr. H. A. WEYMOUTH, of Andover.
Dr. C. W. TOLLES, of Claremont.
Dr. G. P. CONN, of Concord.
Dr. S. M. DINSMOOR, of Francestown.
Dr. E. L. CARR, of Pittsfield.

DELEGATES TO AMERICAN MEDICAL SOCIETY.

Dr. J. F. BROWN, of Chester.
Dr. P. A. STACKPOLE, of Dover.
Dr. H. T. BOUTWELL, of Manchester.
Dr. S. C. WHITTIER, of Portsmouth.

The secretary was authorized to issue certificates of electic delegates to the American Medical Association to the full cor ment of the society.

TREASURER'S REPORT.

L. B. How, Treasurer,

In account with the N. H. Medical Society, June 16, 1

DR.

Received from members at annual meeting, June, 1879,	$2(
Collected after the meeting,	(
Received for Licences issued to G. Amie Lacerte, Oscar Worthley, E. A. Wade, Charles W. Wilkins, E. B. Aldrich, F. W. Mitchell, W. R. Prime, Charles F. George, E. G. Jones, A. E. Emery, G. A. Peavey, J. N. Woodward, G. H. Gardner, G. A. Robbins, W. B. Porter, M. T. Stone, Geo. H. Calley, Geo. W. Hatch, F. L. Judkins,	1
Received from the Censors for examination of J. Addison Jackson,	
	$38

CR.

Paid as follows:

G. P. Conn, for services as secretary to June, 1879,	$2
G. P. Conn's bill for postage, printing, &c., for 1878–9,	2
For dinner tickets for delegates and invited guests,	
Balance due the treasurer on last year's account,	2
J. C. Moore, reporter,	
H. Hobbs, for use of hall,	
Evans, Sleeper & Evans, for printing,	18
D. S. Adams, for expenses as Censor,	
Geo. Cook, for expenses as Censor,	
	$28

Resume :

Received, as above,	$384.00	
Paid bills as above,	284.93	
Balance in the treasury,		$99.07

The Bartlett fund, in the Portsmouth Savings Bank, amounts now to $1,189.51.

The undersigned, committee to audit the account of the treasurer, have carefully examined the same, and find it to be correctly cast and properly vouched.

GEORGE COOK,
J. W. PARSONS.

CONCORD, June 16th, 1880.

Voted, To accept the treasurer's and auditors' reports.

The consideration of revision and printing By-Laws was continued with the same committee to the next annual meeting.

The Board of Censors organized with Dr. L. G. Hill of Dover, as President, and Dr. George Cook of Concord, as Secretary; and these two officers, with Dr. D. S. Adams, of Manchester, were chosen an Executive Committee for granting of licenses during the year.

The following resolution was introduced and unanimously adopted :

Whereas, The order of exercises is materially disturbed, and the Society seriously inconvenienced by the failure of orators to furnish papers, as agreed ; therefore

Resolved, That members accepting appointments are under especial obligation to be present and read their papers at the appointed hour ; but if unavoidable circumstances prevent their being present at the meeting, they should, and hereby are requested to forward their papers to the secretary on or before the first day of the annual meeting.

Voted, That the secretary receive $25 for his services.

Voted, To adjourn to meet at Concord on the third Tuesday of June, 1881.

M. W. RUSSELL, *Secretary*.

PRESIDENT'S ADDRESS.

Gentlemen of the N. H. Medical Society:

I shall travel out of the accustomed paths, in addressing you to-day. Instead of considering some general topic, as has been the custom in this Society, which may or may not have any practical bearing upon our daily duties, I have chosen a theme somewhat intricate, about which there is a wide difference of opinion, but of such importance that it must be of interest to each one of us. I do not claim anything new upon the subject, but I hope I have brought together facts that may lead to a further elucidation of "THE ETIOLOGY, OR NATURE, CAUSES, ETC., OF DIPHTHERIA."

No malady in this country, if we except yellow fever, has awakened a deeper interest among all classes of society than diphtheria. Its fearful ravages among the comparatively robust, as well as the weak; its visitations in the habitations of the wealthy, as well as in the abodes of squalid poverty—sparing neither age, nor social condition in its deadly onslaught—have produced the deepest solicitude how to ward off its attacks. Then the victims of this pestilential disease, among whom it delights to revel, are children of tender years, upon whom the fond parent has centered bright anticipations for comfort and future happiness.

Diphtheria has existed for ages. It has been known under the names of *Syrian ulcer, Askara, morbus suffocans, gullae morbus. garrotillo, para cynanche, malum, Egyptiacum, cynanche maligna, angina gangrenosa, cynanche trachealis, croup, hives, etc.* It is not, then, a visitor of the present century, as some have supposed. Away back in the early ages of Greece and Rome there can be but little doubt of its prevalence, for diseases are frequently alluded to which affected the throat, and were dangerous to life. Aretaeus,

a Greek physician of Cappadocia, who flourished, probably, in the year A. D. 80, speaks of a disorder which became epidemic, where the mucous membrane of the pharynx had ulcerated surfaces " foul, and surrounded with a black, livid, or white crust; and patients thus affected die in a few days of fever and inflammation, accompanied with fetor, ichor, cough, and difficulty of breathing." In 380 a disease broke out in the imperial city of Rome, which Celsus styled para cynanche, analogous in character to diphtheria. Coelius Aurelianus, at the close of the third century, wrote of an ailment where there was a " barking " sound of the voice, a stredulous breathing, suffocation, lividity of the face, and, while in the act of swallowing, fluids passed into the nose. In the sixth century, Actius, of Amida, mentions a trouble of the tonsils where there were white and ash-grey exudations.

History is silent about diphtheria for a long number of years, until about the middle of the fifteenth century, when it appeared in Holland. From this date, we have exact and accurate descriptions. Soon after, it was noticed in Spain, and went under the name of garrotillo. In the sixteenth century, so fearful were its ravages in Naples, that in a few months five thousand fell victims. In 1743, it broke out with violence in Paris, and a large number of those attacked died. Sixteen years afterwards, Dr. John Fothergill, of England, speaks thus of this disease,—" the sloughs are not formed of any foreign matter spread over the parts affected, as a crust or coat, but are real mortifications of the substance." Dr. A. Philip Wilson, of Scotland, in the latter part of the seventeenth century or the first part of the present century, alluding to the exudation upon the fauces, writes,—" They soon assume a dark red color, and specks of some shade between a light ash color and a dark brown appear, scattered over the tonsils, velum pendulum palati, and uvula. The lighter the color of the specks, the better the prognosis." He terms the disease ("Treatise on Febrile Diseases," by A. P. Wilson, page 157) " cynanche maligna."

In the United States, the first mention of this ailment was in 1771, by Dr. Samuel Bard, then professor at Columbia College. He says,—" In general, it was confined to children under ten years of age, though some few grown persons, particularly, had symptoms very similar to it. Most of those who had it were observed to

droop several days before they were confined to bed. Such as could speak, complained of an uneasy sensation about the throat. The tonsils were swelled and slightly inflamed, with a few white specks upon them which increased to one general slough." It was a highly dangerous disease, and yet he remarks,—"There was only one child in which I could discover anything like a disagreeable smell, either from the breath or expectoration." His cases could not have been of a severe malignant type. In 1798 Dr. John Archer published a paper on cynanche trachealis, in which he distinctly portrays diphtheria.

But it is not until we arrive at comparatively modern times that we find diphtheria claiming the attention of medical men as a distinct disease. Bretonneau, in 1821, was the first who gave it a nosological classification. He had observed that there was a disorder generally confined to the pharynx and adjoining parts, where there was a false membrane, and it assumed an epidemic form. He believed he had discovered a new disease, and denominated it diphtherite, from the Greek word διφθέρα, denoting a skin or parchment and ītē, the well-known termination to imply the existence of inflammation. This name was subsequently changed by Trousseau to diptherie, to get rid of the idea that its cause was due to inflammation. Since this time it has been known, both in Europe and America, by the name of diphtheria.

For the last sixty years, medical literature has been teeming, now and then, with descriptions of the terrible devastations which the disease has made throughout the civilized world. Its virulence has not abated in the least, but, rather, since 1858, seems to gather new strength as it moves from one place to another. At the present moment,—autumn of 1879,— in Russia its fatality is terrible. In many portions of that country, it has attained such frightful proportions that the percentage of mortality exceeds that of births. In some small districts, from one half to seventy per cent. of the infant population have died. In the hamlet of Nakomobka, two hundred children succumbed to the disease in about ten months, in addition to a large number of adults. In the village of Tamorofka, not one child escaped the epidemic.

But however interesting it might be to trace the workings of diphtheria, as it has been seen in the civilized world, our purpose

would not be answered in so doing. Let us here remark, that in the United States, after Dr. Bard's brochure, there is a silence for nearly a century in regard to its existence, until it broke out in 1831, as an epidemic, at Philadelphia. In 1839, Dr. Geddings, of South Carolina, published (American Journal Medical Science, 1839,) an excellent and graphic monograph, in which he states that this affection seizes not only the throat but "the remote portions of the body,—the external meatus of the ear, folds of the groin, contour of the anus, and upon those parts wherever there was excoriation of the skin. In 1842 there was an epidemic in Augusta, Ga. (report of Prof. Dugas, 1879). Medical journals occasionally speak of it as existing, but it was not until 1856 that it was generally recognized. It then became known in the Southern, Western and New England portions of this country, under the name of diphtheria. Dr. Force,* of Kentucky, says, "in his practice, begun sixteen or seventeen years before, he did not meet with a single case." In Wilmington, Del., Dr. Bush* remarks, "that from 1849 to 1860 only nine cases of throat diseases were reported in that city, none of them under the name of diphtheria." There has been an increase of this disease since 1857, or before that time the causes producing it must have been less operative, or it must have been recognized by some other name. This is the attestation of other physicians. As far as information can be gained, it prevails more extensively in the northern than in the more southern states, and yet epidemics are reported now and then in the latter, among all classes of society. From statistics, the white population are more prone to the disease than the colored. Dr. Lawrence, of Hot Springs, Ark., says, "there is almost an entire immunity from diphtheria among the pure bred Africans." The vital statistics of Wilmington, Del., 1877, show the proportion of white and colored cases,—six of the former to one of the latter.

ETIOLOGY.

Diphtheria is a constitutional disease, often of an endemic and epidemic character, originating in some miasmatic influence taken into the system. It is generally attended with local manifestations in the faucial regions, of a whitish, or gray ash colored membrane

* Private letters from Dr. Force and Dr. Bush.

spread over the posterior part of the roof of the mouth, the uvula, tonsils into the posterior nasal passages, Eustachian tubes, often along the trachea, bronchiæ, the œsophagus, and even extending to the stomach. The disease is sometimes of an adynamic type, accompanied with more or less disturbance of the renal functions, enlargement of the cervical glands, and frequently terminating in temporary lesions of the nervous system.

The word, diphtheria, is often used vaguely, sometimes denoting a thin almost transparent whitish exudation of the pharynx; sometimes gray yellowish spots upon and within the mucous membrane; sometimes naming a hyperaemic state of the mucous membrane, with here and there scattered spots of exudations, diphtheritis, and calling that affection with severe febrile actions, fetor of breath, swelling of the glands of the neck and the presence of albumen by the same name. No local exudation of the pharynx is deserving the name unless there is constitutional derangement, or symptoms which constitute such phenominal prominence as would indicate its presence, and yet the term is used when there is a mild catarrhal state, when there is an inflammatory condition of the mucous membrane, characterized by active hyperaenia, and when there is no visible membrane to be traced in the pharynx. The disease may be suspected when there are infectious or contagious tendencies, whether there is a membrane or not. There are some appearances of the fauces where a membrane is present, partly adherent and partly not, which seem to have a diphtheritic tendency, but such cases are not accompanied with but little constitutional disturbance, and can hardly be classed as diphtheria. The tendency of mucous membranes, when irritated or inflamed, is to throw out a whitish exudation. Such states are not always diphtheritic, although large patches of membrane exist.

ANATOMICAL APPEARANCES.

In the commencement of diphtheria, there is more or less constitutional disturbance, redness of the mucous surface of the pharynx—the parts are fuller with enlargement or thickening of the faucial membrane. Quite often, in the course of a few hours, the upper part of the throat becomes involved with a color varying from a deep red to that of a darker hue. The uvula is often

elongated and enlarged from a watery infiltration, the tonsils are affected and the adjacent parts sympathize, become swollen and painful. From one to three days after the prodromatic symptoms have commenced, a slightly raised patch, or small points are seen on the posterior part of the fauces, or on the tonsilar region. These soon coalesce and often extend over the entire pharynx. This patch, termed the pseudo-membrane, soon becomes firmer and thicker from fresh exudations underneath, or, as some maintain, from enlargement or sloughing off of the necrosed epethelium. This membrane is tough, two or three lines thick, and is of a gray, or grayish white color. In some instances, the disease appears by preference upon those parts already inflamed. Denuded surfaces of the skin in the progress of the disease, as burns, blisters, or wounds, often become diphtheritic; other parts of the body, as the vagina, contour of the anus, external meatus of the ear, &c., have often an exudation similar to that seen in the fauces.

The common view is that this apparent exudation is of a fibrous character closely attached to, and penetrating into the surface of the mucous membrane, and not easily detached therefrom, and on this account it is unlike membranous croup, in its being more firmly united to the mucous membrane of the fauces. Attempts to separate it often lacerate the parts and produce irritation and bleeding. Virchow was the first who promulgated this supposed distinction between croup and diphtheria, by affirming that the membrane could be easily cleared off in the former, and not in the latter disease. But since that announcement, he has acknowledged his error and confesses that this asserted difference does not hold true in particular instances. Whenever the separation is not easily effected, it is due to the difference of the epithelium of the pharynx and vocal cords, and that of the nasal passages and larynx, the one being basement, and the other generally ciliated epithelium. He found that no line of demarcation could be made between the membranes of the two diseases, and then he took the ground that there is no exudation but the tissue elements, especially the cells, being quickly filled with a cloudy substance, are destroyed by a fatty metamorphosis, and then necrobiosis follows. Jones and Sieveking are also of the opinion that the exudation is in fact a part of the mucous membrane, partially made up of ne-

crotic sloughing tissue. "This character of necrosis is the only distinguishing one of diphtheria." Wagner, whose authority is unquestioned, declares that the two are very much alike and the network in both has its origin in a peculiar fibrous degeneration of the epthelium, and not in the separation of coagulable fluid from the blood. Rindfliesch admits the pathological process in "pharyngeal croup" and "laryngeal croup" are the same. The microscope only shows chiefly necrotic tissue, and reveals no difference of any moment in the two products. There are certain cells resembling coagulated fibrin altered by inflammation, and contain solid infiltrated matter, fused together in various directions, so as to have the appearance of branching tissues. The superficial cells, being the largest, decrease in size until they seem to merge into the normal cells. In the course of the disease, pus cells or free nucleii form in large quantities between the mucous surface and the false membrane, and then a final separation occurs between the two. The apparent exudation soon disappears in consequence of the softening of the cells, which become fatty and granular, and degeneration of a gelatinous character takes place.

There is a wide difference of opinion among medical writers in regard to diphtheria and membranous croup, aside from their pathological characteristics. Many observers, as Bretonneau, Sir William Jenner, and others of equal fame, have claimed the identity of the two diseases, while Home, Buhl, and others in Europe and the United States, contend with equal vigor that the two affections are unlike and produced by different causes. It must be confessed that cases of croup are rarely met with now-a-days, because almost every membranous appearance is now classed as diphtheria. "Croup," writes Professor Hurd, of Texas, "is the exception to the general rule in this state." The same remark has been made by others. The word has been used vaguely, both by the public and the profession, to describe difficulty of breathing, and a certain train of laryngeal symptoms. Strictly speaking, croup is not a disease, but a symptom. The term has no pathological significance. Most French physicians give this name to the membranous sore throat, which is the local manifestation of a general disease called by Trousseau, diphtheria. If the term is to

be retained, it should be applied to stridulous breathing, a symptom common to quite a number of other affections.

The tendency of modern medical thought is to drop altogether the term croup, and substitute that of laryngeal diphtheria. There can be but little question, that membranous inflamation of the larynx and the trachea is in a vast majority of cases diphtheritic. If the conditions of the mucous membrane beneath the pathological products be examined, both in croup and diphtheria, it is the same; and a similar state of the tissues is sometimes encountered. But some give the apellation of croup to the inflammation confined to the trachea and larynx, and diphtheria where the pharynx is first attacked. But this supposed distinction cannot hold, as there are cases where the disease has been so limited, and yet they were traced to infection, conveyed by impure air and water. An instance (Medical Times, London, 1879,) is related where sewer gas escaped into the ward of a hospital for children, and this produced in one pharyngeal diphtheria, and in another laryngeal diphtheria, in which the membrane was located below the epiglottis. Difference of site in constitutional diseases does not imply a specific difference. Cancer, wherever located, is the same. It seems quite improbable that there are two kinds of pellicular inflammations, one in which the cause is diphtheritic poison, and the other arising from some other undefined influence. The truth is, what is termed membranous croup is not confined to the larynx. It often commences in the pharynx, and only in ten to fourteen per cent. of cases does it originate in the former. We have seen cases of membranous croup begin in the nasal passages, then seize the fauces and creep down into the larynx and trachea. There could be no mistake about the diagnosis. The membrane was white; there was no odor, no asthenic symptoms, nor any of the phenomena which are supposed to separate, clinically, the two diseases. Diphtheria, likewise, often commences its point of attack in the nasal passages, and travels downward into the larynx, simulating croup in its mode of progress.

If there is any distinction between the two affections, it must be found in their clinical features, and these are generally classed as follows, viz:

Diphtheria is	Croup is
Adynamic type.	Sthenic.
Enlargement of cervical glands.	No enlargement.
Albumen in urine.	No Albumen.
Occasionally paralysis.	No paralysis.
Eudemic and epidemic.	Sporadic.
Contagious and infectious.	Not infectious.

These supposed distinctions, of course, are more marked in some instances than in others. In many cases of membranous croup, it is quite difficult to draw the line of dissimilarity from diphtheria. The two affections seem to run into each other. There are but few examples of sthenic croup. Bleeding has been resorted to even in both croup and diphtheria. Simorre (Courier Medicale, 1878,) has reported 53 cases of diphtheria thus treated, all of them recovered, most of them in twenty-four hours, but we do not think venesection can be well borne in either disease.

Difference of type, then, cannot have much weight to distinguish the two affections. Many cases of diphtheria are very mild, virtually non-infectious, and they are easily cured.. Indeed, their tendency, from the first, is toward health, and they do not, in any way, assume adynamic symptoms. Neither is the fact that the cervical glands are enlarged in one instance, and not in another, of great value as a differential sign. Glandular swelling is not necessarily present, where there is a membrane of the throat. In other affections of this region, and inflammation thereof, the superficial glands of the neck are frequently irritated. Cancer has a tendency to increase their size when situated in the fauces, but in the larynx it has no influence over them. As to albumen, it is seen in croup as well as diphtheria. Dr. Dickinson (Medical Times, London, May, 1879,) reports forty-nine cases of croup, out of sixty-three, where this was present, and one, out of seventeen, in non-membranous croup. In regard to paralysis, croup almost always terminates fatally before this symptom appears, and therefore this cannot be claimed to exclusively belong to diphtheria, or to be of any diagnostic importance, and yet cases are recorded of those who have recovered from this ailment with paralysis of some part of the body. Then, in the matter of contagion and infection, there cannot be drawn any line of separation, since both diseases so imitate each other in appearance and history as to make it difficult, if

not impossible to distinguish between them. (See London Lancet, Nov. 1879, p. 675.) Hence the reason that many name cases of laryngeal diphtheria, croup, and croup diphtheria. There can be no doubt that membranous affections in the larynx and trachea are often contagious. Malignant and putrescent diphtheria can always be considered infectious and contagious. But it will be said, that croup differs from diphtheria in its character and manifestations. The latter often attacks the Eustachian tubes, extends to the internal ear, and from the nasal passages into the eyes, and even reaches to other parts of the body. Croup never manifests itself thus. Our answer is, in many persons the mere scratch of a pin on any part of the body produces grave consequences; in another, this would have but little effect; so there is a difference in the manner or progress of a common sore throat. In one person, it is slight; in another, it is more extensive and causes greater suffering. Likewise in membranous affections, sometimes the membrane is confined to a small portion of the faucial region; in others, the tendency of it is to spread in every direction, forward over the roof of the mouth up into the nasal passages, &c. The disease from the onset assumes a gangrenous character, and there is so little apparent vitality in the parts that nature is unable to stop its spread. Now no one will pretend to say that the cause in these examples is different, but the varying results are due to the idiosyncrasy of individuals to different constitutional diathesis, and to the inability to withstand the attacks of any violent disease. But we will not pursue these supposed points of difference further.

True diphtheria, both laryngeal and pharyngeal, has the ability to communicate its poison to others. It is contagious in some degree, but not so much so as many other specific diseases. In mild cases, where there is but little constitutional disturbance, this disposition is but little felt. Single cases of this character are often noticed even when there is no isolation of the sick. This disease is communicable by means of a vitiated atmosphere and the excretions of the sick. Whole families will be stricken down when once it has entered their dwelling. The more virulent the attack, the more vitiated the surrounding air, the greater liability to infection. It develops very rapidly under the influence of poisonous miasms. Clothing becomes tainted with its infectious nature. It

can be conveyed from one house to another. One sick at a long distance may be the vehicle of producing a violent epidemic of this disease in another place. The case* reported by Dr. Spear, of Maine, in the New York Medical Record (July 1875), cannot be accounted for in any other way, except the disease be infectious. Here a shawl was borrowed from an infected house, and taken to another, where there was no disease. In a few days afterward two children in the latter place (which was some distance from the first) became sick with diphtheria and died. There had been no other communication with the first named family. Dr. Thursfield, of England, has reported a very remarkable instance where a non-infected person, living in a house where the disease had been, walked some distance, crossed a ferry, and spent a few minutes in another house. But she was there long enough to leave the germs of disease, as diphtheria broke out with violence a few days afterwards. Dr. George Johnson, of King's College, England, relates the following instance: "A girl aged fifteen years, after having been ill for ten days at a school, returned to her home. It was noticed that for some days after her arrival, she had a discharge from her nostrils. As no warning had been given that she had been suffering from an infectious disease, she was allowed to associate with her seven brothers and sisters. After she had been a week at home the school-mistress wrote to say, 'that she felt anxious to hear of her pupil, as there had been cases of diphtheria at the school.' In about another week, a sister aged ten and a brother aged four were seized, within a day or two of each other, with symptoms of diphtheria, and in a few days they both died. The other children were isolated as soon as they sickened, and no other cases occurred." So confident are sanitarists of its contagious and infectious nature that they recommend isolation of the sick in all cases. Not only so, but this infection clings to the walls of papered rooms for a long time. I had recently under my care a patient, a father who was quite sick with diphtheria. His daughter, about three years of age, usually slept in a small room with the father and mother. She was not allowed, during the parents illness, to go

* Proof that the disease may be spread through infected clothing, can be found in the replies of Drs. Clapp, Young and Swift in the Report of Michigan Board of Health, 1878.

into the sick room. I recommended, after his recovery, that the bedding be disinfected, the room be cleaned, with the remark at the time, "if you do not do this your little daughter will surely take the disease." This was not done however, as thoroughly as directed. In less than five months (the disease not existing as an epidemic or even sporadically) the little one violently sickened, and after a few days died. I have no doubt that the cause of her disease was due entirely to the infection kept alive, it may be, in the walls of the room or the bedclothing.

The poison of diphtheria is carried by the ordinary channels of infection. Its tendency is to spread more at one time than another. It enters the system through the water drank and the food taken. Without doubt it is communicated by inoculation, as the deaths of Henri Blache and Valleix prove. A physician of our acquaintance came near losing his eyesight from a child coughing and some of the expectoration falling into his eyes. The mere breath, or the act of kissing the sick, has been productive of this affection. The secretions of the sick may pass into drains holding the germs of disease in suspension and be taken into the system whenever a favorable condition of the atmosphere and system supervenes. Moreover, infection can be taken from a corpse and its adjuncta.

PERIOD OF INCUBATION.

Sometimes it is difficult to arrive at a correct conclusion how long diphtheritic poison remains in the system before symptoms of the disease appear. In four cases recently under our supervision, after the first child sickened it was four days before the two others were attacked, and, eight days afterwards, the fourth was taken sick. Generally the period of incubation is from two to ten days, but often the poison may remain dormant for weeks before it becomes active. In one case, the disease occurred in fourteen days after exposure. Dr. McKenzie, of England, records a case of a young lady, who insisted, contrary to the advice of friends, in paying a visit to her cousins in London, who were convalescing from an attack of diphtheria. She spent two hours in their society, and in fifteen days afterward, she was taken sick. Prof. Smith, of New York, says, "the incubation of diphtheria, like that of scarlet fever,

varies in different cases. It is from two to eight days, with perhaps an occasional case outside of these limits."

NATURE.

Diphtheria resembles scarlet fever in some particulars, since the two diseases are seen in the same habitations, one following the other; and in its variability of type from a mild to a malignant form. Scarlet fever always furnishes conditions favorable for its occurrence. In its etiology it would seem to have some relation to typhoid fever, as both diseases arise from foul exhalations and sewer gas. Dr. Thursfield, whom we have before quoted, states (London Lancet, 1878), there is a connection between the two. He has observed epidemics of both affections occurring at the same time, the one around a town, and the other within, and not a case of typhoid fever without, nor a single instance of diphtheria within, that "diphtheria everywhere prevails inversely to typhoid fever, to which it is closely allied," although an attack of the latter affords no protection from a subsequent attack of the former disease, and that diphtheria may be disseminated in the same channels as typhoid fever. We noticed recently a corroboration of the statements of this writer. In a row of houses lately built on a gradual rise from the embankment of a river, the topmost of which was about forty feet above the river bed, diphtheria broke out in January, 1878, and there were five malignant cases. Soon after, the family in the next house had cases of the disease, and so on to the last, where it did not appear. In the next month five severe cases of typhoid fever occurred in the house next the river. This building was situated about two or three rods from the water, where the refuse of the three double houses was thrown and their sink drains emptied. The stench therefrom was quite disagreeable at certain times.

What then is the cause of diphtheria? There are two theories at the present time which divide medical opinion, that attempt to explain its phenomena, viz: that the disease is at first local by the presence of bacteria, and then constitutional symptoms intervene; and second, that it, from the first, is constitutional through blood poisoning, and that the diphtheritic membrane is only one of its manifestations. While neither of these theories may change the

ultimate results of the disease, still in matter of treatment it becomes quite important, for remedies addressed to the destruction of the vegetations found in the pharynx hold a chief place in its medication. Trousseau recommends to attack the pseudo-membrane with what he denominates "savage energy." The bacterian theory, without doubt, has had its influence on practice, and yet the experience of every physician is teaching him daily that, in grave cases, local measures, however early or perseveringly enforced, do not protect the system or prevent the occurrence of unmistakable symptoms of general infection.

The bacterian theory briefly stated is, that certain vegetable organism or monads attack the faucial regions, because there is the most fit place for their lodgement and growth, and through some unknown action cause, first, an exudation, and then, by septic influences, poison the blood and create general disturbance of the system. There are four genera of these bacteria recognized by pathologists, viz: the spherical, rod-like, cork-screw shaped, bacteria, and then a large species known as cocci with sprouting cells, with tube shaped processes, and with one or two small waving processes. This is Oertel's classification, who is considered the representative advocate of this theory. His opinion is that diphtheria cannot exist except through the presence of these bacteria or, as he sometimes calls them, "micrococci." "The vegetations," he remarks, "in the pathological products of diphtheria, consist principally of spheroid bacteria (the micrococcus), accompanied by a larger or smaller number of bacterian termo, represented always by the smallest number known, and this occurs so constantly that in every part when a diphtheritic infection has appeared, then the tissues and exudations are filled with these bacteria." Again he says: "If the disease increases in intensity, we can always demonstrate a progressive increase of these organism in the infected parts." Eburth is positive that "without micrococci there can be no diphtheria."

The germ theory has found quite a general acceptance among German physicians, and if we take into consideration the ability of its advocates, we have to confess that all objections to it should be carefully weighed. There can be no doubt that bacteria exist frequently in diphtheria, yet there has been no plausible explanation

how these vegetations get to the pharynx, nor in what manner they produce the local results. Ordinarily they excite no deleterious influence over the normal conditions of the system. When investigation has revealed that certain fungi in the diphtheritic membrane are harmless and are seen in healthy operations of the system, refuge has been to other forms, as, for instance, the bacterian termo, to bring the borders of the invisible into perceptibility. The methods to show that bacteria produce local disturbance, have not always been logical. The investigations have begun at the termination of the disease, or when the disease has been sometime in progress, to prove what the disease is. They should have been aided or supplemented by clinical observations. The conclusions are often grasped at without proper authentication. As well take the contents of the ulceration of Peyer's glands, in typhoid fever, and finding bacteria there, reason that these were the causes of this fever. It is an humbling admission that there are but few epidemic diseases whose origin is positively assured. We cannot isolate the unknown substance or form which creates such wonderful action upon the system as is seen in variola, or the minute particle of infection which permeates the body and gives potency to its hideous deformities. All we do know, in our present state of knowledge, is some of the conditions under which diphtheria is developed. From a scientific standpoint, much of its declared etiology must be rejected because it has not been demonstrated as true, or even probable. In a practical point of view, however, it is of the utmost importance to know everything about its history, and the researches of others, if we would learn its nature and avoid its terrible consequences.

Now the majority of the supporters of the bactarian theory rely chiefly upon pathological experimentation to determine the character of diphtheria. If this be disproved or shown to be groundless, then its claims as a local disease are at an end. At the outset, it is quite singular in the investigations in this direction, scarcely more than one or two eminent microscopists agree or have arrived at the same conclusions. One kind of fungus is often claimed to be found, and then that particular kind will be denied to exist by the observations of another investigator. And then success is not always attained. Trousseau, Peter, Duchamp, and

others inoculated themselves with diphtheritic matter, and negative results followed; while on the other hand, Oertel and Hueter have formed what is supposed to be the pseudo-membrane of diphtheria, by planting a portion thereof upon the mucous membrane of the throats of rabbits. The animals died in two or three days afterwards, with symptoms of general infection. Although in some instances a false membrane was produced, it may have been caused by decomposing animal matter. Take any suppurative process, in some states of the system, and, in quite a number of cases, local irritation would ensue, and there would be general disturbance of the animal economy. It therefore cannot be considered proved, that true diphtheria has yet been artificially produced by inoculation of the lower animals, though certain interesting phenomena have been produced.

Oertel states the bacterian termo, or micrococci, never present in simple inflammation of the fauces, but as soon as the diphtheritic process sets in, then this species makes its appearance and displaces the other forms of bacteria previously present. But this writer has been directly controverted in his position by M. Chanveau, who found the growth in diphtheria to present no difference from those observed in vaccina and variola. Senator (Duchamp, Thesè de Paris, 1875, No. 339), has observed in diphtheria, the leptothrix buccalis, a harmless fungus seen in health. He considers the minute bodies, or micorcocci, of Oertel, to be spores of the leptothrix, and that the same fungi are found in apthous, and mercurial stomatitis. Dr. Beal of England, who ranks as one of the best microscopists of that country, maintains (Disease Germs, 1872, London,) "that vegetable germs are observed in every part of the body of man from the earliest age, and in all stages of health. Millions of them are always found on the dorsum of the tongue and in the alimentary canal, and that active bacteria introduced among the living matter of healthy tissues will die, although the most minute germs present, which escape death, may remain imbedded in the tissue in a perfectly quiescent state, and that there are a few morbid conditions that are unquestionably solely due to the growth and multiplication of vegetable fungi."

It would almost seem that bacteria are only the vegetations of decay. Where decomposition reaches there is seen a profusion of

this growth. When the life of any tissue or membrane begins to wane, then the process of death sets in, by the multiplication of these fungi, to repair in some way the destruction going on in the diseased parts. Their first and last mission is growth and reparation of the wasted tissues, and because they are seen so late in disease in such frequency, only shows how lavish nature is to restore health in the affected parts. "The forms of bacteria are only the latest degrees of organization, and stand on the confines of animal and vegetable life." They are not individually injurious, but when numerous in the blood vessels they may be accompanied by a decomposition of the blood and secondary symptoms of poisoning. They are not probably the cause, but attendants of these pathological changes.

But there are other strong objections to the validity of the bacterian theory. If these vegetations were found in diphtheria alone, then there might be some reason in the supposition that they originate it, but they are noticed elsewhere. They are often recognized in puerpural endometritis; in inflammation of the lymphatic glands; in pulmonary abscesses, and abscesses of other organs; in serous inflammations, and puriform thrombi of the veins. Jones and Sieveking state that they are observed in suppurative, nephritis, and putrefying urine. Ricklinghausen has observed them in pyraemic abscesses. Bundon Sanderson has traced similar organisms in the fluid of a large class of infective inflammations. Cohn maintains that, "all putrefaction is attended by the development of bacteria." Tendency to decay, or necrosis of the parts, gives an increase of these vegetations.

Again, another objection to the bacterian theory lies in the fact that certain meteorological changes (their nature being as yet obscure), the prevalence of influenza and common sore throat during an epidemic of diphtheria, would indicate a different origin. Then the sequelae of this affection, viz: paralysis, would show that its poison and septicaemia are quite distinct, for persons who have septicaemia often recover and are in no way troubled with paralytic affections. Besides, it is well known that these fungi remain a long time in the mouth, cover the teeth and gums, without interfering with the ordinary functions of the system, and it is quite improbable that their nature is so suddenly changed as to produce

a dangerous disease. Moreover, if these bacteria are from without the body, why do they seize first the facial regions, passing over other portions of the mucous membrane just as well adapted for the nidus of vegetation? The larynx and nasal passages are seldom at first the place where the pseudo-membrane is first found.

In addition, there is no doubt that constitutional symptoms precede the local manifestations of the throat. In the epidemic at Groveton, N. H., in 1878, for days patients began "to droop," to be in a weakened state, as if under the influence of some poison that was permeating the entire system, and then followed the usual phenomena of the fauces. In an epidemic of 1878, I noticed quite a number of cases where the patients complained of sore throat and difficulty of swallowing, and on inspection no membrane was seen for hours, and in one case, for two days. In these cases there could be no question that the inflammation was developed in consequence of blood poison, and not from any irritating fungus upon the mucous surface. There is nothing more frequent than the occurrence of severe constitutional symptoms, for a half day or longer, before the usual inflammation ensues or the membrane is seen.

Again, the sudden deaths in this disease would preclude the supposition that their cause was derived from local absorption. Cases are reported terminating the first day of the attack, and also there are cases where the membrane is so small in extent that the cause of death could not be due to diphtheritic toxaemia. The only explanation of such instances is, that the first departure from health is in the blood. The hypothesis that the small, and oftentimes harmless local appearances of the mucous membrane, is the source of such morbid changes as is frequently met with in diphtheria, seems, at least, not grounded upon reason. The following case will illustrate this point: G. E., aged seven years, was sick with diphtheria in the winter of 1878. She complained, at first, of soreness of throat and a slight difficulty in swallowing. She was able to be about her room. There was no odor, no enlargement of the cervical glands, nor any of the usual concomitants of diphtheria. Pulse 125; temperature 101°; appetite variable. The second day, towards evening, there was a slight patch over the left tonsil, about six lines in length and five in breadth; breath slightly

offensive; temperature 102°; pulse feeble and quickened. There was no dyspuæa, nor was the larynx involved. All nourishment and medicines were refused. She sank rapidly on the third day with such slight diseased membrane as to make it impossible to produce general septic symptoms. Her disease was constitutional from the first. The poison prostrated her vital powers, and she was unable to withstand the severe attack upon her system. There was albumen in the urine, another indication of the constitutional nature of diphtheria.

Let us here remark that a few observers have met with albumen as early as the first day of the disease, and nephritis begun as early as pharyngitis. This fact would tend to show that the miasmatic poisoning must have entered the blood before the renal disturbance.

One other objection to the bacterian theory is, that diphtheria is oftener a disease of cold climates. It is seldom noticed in the warmer regions of this country, away from the changeableness of ocean breezes. If it depends upon external vegetation for its growth and extension, then the inference would be that it would prevail more extensively where warmth and suitable surroundings for miasm exist; but its history does not teach this.

With what is known in regard to bacteria, the general conclusion is that they are the attendants of putrefaction, and not the specific principles of diphtheria; that in no way, at first, do they harm the ordinary functions of the body. Possibly, as death nears, they may serve to obstruct or divert the normal course of nutrition, and, by entering the blood and lymphatic vessels, interfere with their ordinary offices. If bacteria could be discovered externally to the body then they might become bearers of infection, but research has failed to verify this.

CAUSES.

Predisponents. The predisposing causes of diphtheria are tender age. Childhood is more subject to it than any other period of life. In Gloucester, Massachusetts, in 1877, out of 207 fatal cases, 146 were children less than five years of age. In Taunton, the same state, in 527 cases, there were 93 deaths, as follows:

From 1 to 3	39
" 4 to 6	33
" 7 to 10	15
" 12 to 36	6
	93

In England, from the returns of Registration General (London Lancet, 1878), there is an analysis of 70,000 fatal cases. The proportion of deaths in one thousand is as follows:

Under 1 year,	90
From 1 to 5	450
" 5 to 10.	260
" 10 to 15	90
" 15 to 25	50
" 25 to 45	35
" 45 upwards,	25
	1000

By this table, it will be seen nearly one half of the mortality occurs before five years of age, and four fifths under ten. It rarely occurs in children under one year. Cases, however, are reported of children three days old. Old age is comparatively exempt from its attacks, and it is not frequent after the middle of life. But persons in the vitiated air of the sick room, are especially liable. Next to age, among those predisposed to diphtheria, we may mention those who are subject to pharyngeal catarrh, and those who have had diseases which have lowered the vitality of the system; those who have inherited weak constitutions, who are afflicted with enlarged tonsils, glandular swellings; the scrofulous, and those who have "relaxed throats," or where the epithelium is in an irritated state, as especially prone to the disease. In addition, persons having insufficient food, or badly nourished, or debilitated from over work, abstinence, indulgence, or living in ill ventilated houses, or crowded into tenements uncleanly, with a foul and tainted air, are its subjects. Sensitiveness to the contagions of diphtheria, varies in the same individual in different seasons of the year. Also, great differences exist in susceptibility to the disease; many children pass through epidemics and go unharmed

from the poison. The influence of schools favor its extension, epidemically, and so do crowded assemblages.

ATMOSPHERICAL INFLUENCES.

There can be no doubt that certain meteorological changes affect or modify the prevalence of diphtheria. Its existence is mostly confined to the temperate climate, and it is seldom found in the frigid regions. The nearer the tropics the less it is known. Occasionally it appears there, but if so, it is in a less virulent form. Its natural *habitat* is when there are sudden vicissitudes of weather, as, for instance, from cold to mildness, from dryness to dampness; transitions from heated rooms to a lower temperature, or any state of the air which tends to produce hyperaemic conditions of the naso pharyngeal mucous surfaces, favor its growth. It exists more in the autumn and spring than in the summer months. From the middle of August, it begins to increase up to about the middle of November. Dr. Snow, of Providence, R. I., reports (*Vital Statistics of Providence, R. I., 1878*) a larger fatality in October, and in that city in the last four months of the year more than half of the number of deaths occur. From 1858 to 1878 the aggregate mortality in October, November and December, was 41.59 per cent. Similar results have been noticed in other places. In Lynn, Mass. (*Massachusetts Report of Board of Health, 1878*), out of 509 cases in 1877, over 23 per cent. of these were in October. This month was several degrees colder than usual, with an excess of dampness. In Taunton, of the same state, of 527 cases, 161 were in the same month. In Wilmington, Del. (Vital Statistics, Wilmington, Del., 1878), the disease was more prevalent in the cold months. No deaths occurred in that city in 1873, from June to October; and in 1875–6, none from March to September. We have noted more diphtheria the last of October and the first of November. Webmer, of Germany, shows a greater predominance in autumn, especially from September to December. In an epidemic in Berlin, from 1868 to 1869, extending from November to April, it reached its height in the very rainy month of November. Diphtheria, like kindred diseases, is not confined to any rules, but during an epidemic breaks over all barriers. In Gloucester, Mass., the greatest mortality was in January, 1877. This may be re-

ferred to the sudden variations of temperature likely to occur near the ocean. The observations of Dr. Thursfield are that the winter months favor its extension more than any period of the year. The terrible devastation of this scourge in Russia, during the latter part of 1879, show that changeableness of autumnal weather and the coldness of winter act as prominent exciting causes. Dr. Manson, of Maine, says that cold winter weather, followed by a warm, moist atmosphere, almost invariably grows a crop of diphtheritic patients. Florida is noted as a health resort, and for its mildness and evenness of climate. Dr. F. D. Lente, of New York, who spends his winters in that state, writes, "Diphtheria has never prevailed there." Of its existence in an epidemic or sporadic form in the warmer parts of the year, there is no question, but the occasion of its appearance will be in the hygrometric state of the air, or from sudden meteorological changes. A low temperature, associated with marked humidity of the atmosphere, is more favorable to its increase and high mortality than any other condition. In proof of atmospherical influences, Mr. Salter, of England, states that he has been suddenly called to three or four cases of diphtheria in one day, at the distance of ten or twelve miles apart. The larger the amount of rain-fall in autumn and winter, the greater the predisposition to the disease. The poison of diphtheria shows less power of active diffusion in hot or cold dry air. Its normal medium is moisture accompanied by a variable temperature.

Geological Formations. There is a general agreement among all observers, that diphtheria is seen in all kinds of soil, in elevated regions as well as those of lower formation. But it is quite well ascertained that original cases never spring up in any kind of soil if the sanitary conditions are unexceptionable. The reason why so many err in this respect is, that cases are often found in healthy localities whose origin was miles away, either from infection or contagion. Because a case of diphtheria is seen, it is no evidence that its seeds or germs were in that particular place or locality. If the land is badly drained, or saturated with constant percolations of the debris of sink drains, &c., then one may safely affirm that any kind of soil, be it dry or moist, high or low, will pretty surely witness instances of the malady. Under these circumstances diphtheria exists in all geological conformations, in the undulating

prairie, in the high pine regions of Alabama (Dr. Smith, Plattsville, Alabama), amidst the granite hills of New Hampshire, by the sea shore, valley or ravine. Quite often it breaks out in places high above the adjoining country. Take, for instance, Lexington, Ky., one thousand feet above the Gulf of Mexico, and five hundred feet above the city of Louisville, of the same state. In the former place, a few years ago, it appeared epidemically, while in the latter place they were only sporadic cases.* Dr. McClelland, of Illinois, states that at Peoria, and adjoining territory, where the general features of the country are that of a level plain, it manifests itself frequently in a malignant form. This much is proven: that diphtheria clings to those soils where there is a decay of vegetable matter, in undrained marshes, in localities by the side of stagnant waters, on hill or valley where filth reigns, where externally everything bespeaks comfort and opulence. Soils free from the contaminating influences of filth, never witness, *de novo*, a case of this disease.

Filth. Diphtheria is a filth disease. This can be as clearly demonstrated as that typhoid fever is thus derived. Taking into consideration, the varieties of soil, conditions of life, and other phenomena of this disease, this view meets all of its peculiarities and better explains its history than any other hypothesis. This statement does not rest on mere assertion alone, it is accompanied by such accumulation of proof as would substantiate the origin of any other disease. We are aware that there is a strong objection to this opinion, because there are families and individuals living in filth, constantly taking into their lungs impure air, and yet they do not contract diphtheria more than those in sanitary situations. No one believes that any and every kind of foul emanations from decomposing matter, will at all times inaugurate this ailment. There must be local and atmospherical conditions to set into activity its poison. Every fetid odor is not laden with the seeds of disease, nor with the particular infecting matter which excites in the system such grave consequences. Those families and individuals living in such unnatural circumstances, may not have been subjected to its contagion, but when they are, they will fall more easily a prey to its ravages.

*This information was obtained from Dr. Hewit, Louisville, Ky.

What we mean by filth, is that state of things in houses, and the soil around them, which would suggest demand for drainage. The term is applicable to the effluvia of over-crowding; to the foulness of air occasioned by the removal of volatile refuse matter of the body; to those places where, for the want of proper ventilation and the exclusion of light, unhealthy vegetations spring up; mould and decay are seen, and odorous gases arise; to houses with unventilated cellars, where decomposition of animal and vegetable matter has contaminated the soil and air; to stagnant waters, often the receptacle of sink drains; to wet and marshy lands, cesspools, along the side of which is placed many a dwelling. The foulness of water in such places, and the tainted atmosphere, contain the seeds of current morbific infection, and render all connected therewith subjects for disease. It is in such localities that we often see diphtheria in its worst forms. The causative agent is developed and reproduced external to the physical organization.

There is no disease without an adequate cause. That filth is one of the latent causes which induces diphtheria may be inferred from the fact that it is often noticed independently of antecedent causes. Quite often it breaks out in isolated districts, in habitations miles away from others, and in some instances appearing in lonely spots, amidst elevated regions, where a visit from others would be a circumstance too important to be forgotten, and of course the disease could not originate from contagion or infection, for the persons attacked were children whose movements could be traced with the strictest accuracy, where, after the most careful scrutiny, no instrumentality could be discovered to explain its outbreak, except the surroundings of the dwelling, whose privies and sink drains were badly cared for. During last November, I met with four virulent cases of diphtheria in a farm house situated about half a mile from any other dwelling. On the east of this house was a stable used for a slaughter house; on the west, a wooden sink spout, untrapped, poured its contents into a drain. This drain was covered for about two rods, and then it opened and the waste water ran upon the top of the ground. The first case was a youth of sixteen years, who slept in the south-west corner of the house, in a small room near the waste water. There had been no cases of diphtheria in the neighborhood. Indeed, these four

cases were the only ones for the season. There was no doubt of the spontaneous origin either from the stable or drain. In November, 1878, several cases of diphtheria originated at a small school-house in Dover, N. H. Seven of these (many of them living a mile apart) were seized nearly at the same time, within a few hours of each other. The origin of this epidemic was traceable to the privy of the school-house, which had not been cleaned for three years. The soil was moist, and in the spring of the year water from melting snows and rains often stood around the house, and of course the soil was saturated from soakage of the privy contents.

There can be no doubt that sewer gas bears an important part as one of the factors in generating diphtheria. Water-closets are often constructed imperfectly and more or less mischievous, so that this gas enters buildings. They are by no means perfect, unless the flow of sewage be continuous without leakage or deposit, and in absence of this, of course they become sources of disease. There is a carelessness in constructing house drain receiving pipes, so that often communication is brought therewith into the interior of houses, actually within bed rooms. Water-closets do not often have suitable means for flushing. Many a dwelling is filled with impure air from mismanagement of drain outlets, or non-repair of worn out apparatus, or from sink traps injudiciously made, or from accumulating privies. The breathing of this impure air is most deleterious, because in sleep the respiration is fuller and more free, and there is not so much circulation of fresh air as in the day time. The consequences of this are to render the system more subject to disease, and if these drains are in populated places, they afford means to carry the disease far and wide, and produce epidemics. But sewer gas is not the sole agent, and it may not be the hot-bed of this malady. In country places there can be but little anxiety from this source, as but few houses are furnished with sewage apparatus, and yet the disease is quite as dominant there. How often, just outside of many a dwelling, one sees "refuse matter in the state of decomposition, excrements of man and beast, garbage of every kind, ponded slop water lying on the surface of the ground, sometimes in absence of drainage held specially in receptacles provided for accumulations." All these substances will carry volatile effluvia into the air, and by soakage

and leakage into the soil send forth foul and sickening influences to weaken those who live amid their disease-giving powers. These, with the decay of vegetable and animal material in certain states, are necessary for the production of this disease, depending as much on the rate of temperature, and their decomposition, as on the character of their ingredients.

But filth often exists in habitations where there is no ventilation underneath—where the air, through decomposition of organic matter, often becomes noxious and irritating to the nasal and pharyngeal mucous surfaces. This is caused by locating buildings without adequate cellars, or none at all. Free circulation under a building is an important requisite for the maintenance of health. Quite often houses are built with open floors, where families live and spend most of their social intercourse. In the washing of these floors filth and vegetable matter fall underneath, and eventually the soil becomes permeated therewith. We learn from a gentleman who has resided a long time in Russia, that the poorer classes live in cellarless houses, with floors not sufficiently closed, and where much of the filth of living drops down underneath them. These rooms serve as sleeping rooms, where quite a number, often as many as ten or more, sleep and breathe the vitiated air of such tenements. Doubtless the great prevalence of diphtheria in that country, in 1879–80, is partly due to this manner of living. No one can imagine the offensiveness of this pent up air of buildings thus located, where no opportunity is given for escape. The odor is pungent and irritating, and persons brought under its influence must be severely affected therewith. It is from buildings of this character, contaminated by the effluvia of vegetable and animal decay, that have drawn the attention of physicians to the fact, that diphtheria is quite often prevalent in houses or rooms with no cellars, or in houses which have, by reason of age or carelessness of location, settled into the ground and thus preventing the free circulation of air underneath. The observations of Dr. Field (see N. E. Medical Record, 1875), of Iowa, upon this point, are quite interesting and instructive. His conclusions in his investigation of the condition of twenty houses, are that ground and cellar air furnishes some of the conditions or essential elements for the origin of diphtheria.

Then another source of filth is found in the water supply from springs and wells. Often these are fed from surface water which gathers up all the filth for miles around, from hill and mountain, to be poured into them, and into ponds and lakes, and even into running streams. This is often carried far and wide by the ice formed in such localities, for it has been found that the act of freezing does not destroy the activity of vegetable or animal matter to produce serious disturbances in the human system. The singular and instructive cases of intestinal disorder, which occurred at Rye Beach, N. H., reported in the Seventh Report of the State Board of Health, illustrate the possibilities of impure ice used in drinking water to become mischievous to health. If diphtheria is obtained by impure water of wells and the contamination of springs through a filthy influx of surface water, we can see no reason why it may not propagate itself sometimes through ice. Indeed, the history of the disease, its mode of origin and the laws which govern its progress, would tend to the probabilities of this supposition.

The influences of filth are seen whenever ponds or marshes are drained, and where the refuse of these are exposed to the sun and air. Take, for illustration, the epidemic (*see N. H. Medical Society Transactions, 1879*), in New Hampshire, 1873, where there were 114 cases of diphtheria in a sparsely populated town. This broke out in a school house which was situated near a mill pond and a marshy piece of land made up of decayed vegetable matter. Little water courses ran down from the hill-side, one of which made its course under the school house. In addition, there were two privies whose contents had not been removed for two years. Besides, the refuse of a tannery and the sawdust from a saw-mill was carried down into the pond and marsh. Just before the outbreak, the water was drained off for the purpose of repairing the dam, leaving exposed the bed of the pond and the partly drained marsh. Twenty-seven members of the school were stricken down in a few days, and there is but little question that filth was the primary cause. A singular fact about this epidemic, and pointing to the bottom of the pond and marsh as the factors, is, that old and young living around this locality complained of fatigue, chills, loss of appetite, approaching a typhoid condition. Typhoid fever followed this epidemic. After the reparation of the dam the gates

were closed and then all at once the village became free of disease. (*See Appendix for illustrations of the effects of filth as a cause of diphtheria.*)

Symptoms. These vary from a slight soreness of the throat with but little fever, to those of a most malignant type. Many writers* have attempted to classify the different phases of these symptoms, and denominated them under different names. There is no sharp distinction between these supposed varieties, for they often run into each other. A mild case may become a malignant one. We shall consider only two varieties, the mild, with but little constitutional disturbance, and the malignant, where there is serious trouble in the vital functions of the body, where the system seems prostrated under the heavy load of blood poisoning. The characteristic symptom attending both forms is the pseudo-membrane. This generally, but not always, points to the true nature of the malady. In the mild variety, the symptoms which commonly precede, and which may continue from two to five days, are dullness, headache, anorexia, moderate febrile action, where the temperature may rise a degree or two above normal. The symptoms are simply those of common sore throat, with a feeling of dizziness and some slight difficulty in deglutition. There is a general sensation of depression, accompanied with pain in the loins, dizziness, nausea, and occasionally diarrhœa. Very often the patient is about the house as if affected with a slight cold or some trivial sickness. The tongue has a dirty, pasty coat: the throat is of a reddish hue, not unlike the appearance of pharyngitis: the uvula is enlarged and elongated, and the posterior part of the fauces and tonsils are red and swollen. Sometimes only one side of the fauces is affected. The cervical glands are tender and larger than usual, and are swollen on the side of the inflamed part. In a short time the membrane appears. This generally commences with whitish spots, patches or shreds, and these patches are surrounded by a bright red border, gradually becoming thinner at the edges, and after a while coalesce and form a complete covering to a part, or the

* Dr. Jenner has grouped the different varieties into six, as follows: 1. The mild form of diphtheria. 2. The inflammatory forms. 3. The insiduous forms. 4. The nasal forms. 5. The primary laryngea. form. 6. The asthenic form, and some have added the gangrenous form, and a chronic form. These names indicate the symptoms which may be expected in each variety.

whole of the faucial region. Sometimes the tonsils are engorged and fill up the entire passage. The membrane presents a variety of shades of color, from a pure white to a darkish tint, and looks like wet parchment. Now and then, after the disappearance of the membrane, the parts become speckled over with small white cheesey spots, but they generally disappear without further inconvenience. This membrane is not confined to the pharynx alone, it may extend to the nares and involve the nasal passages, causing a muco-purulent discharge. This is always considered a grave symptom. Frequently the disease travels down into the trachea and bronchial tubes, and, in fact, no part of the body is entirely exempt from its presence, if there are wounded surfaces or the skin is denuded by burns or other injuries. When the disease reaches the trachea, there is hoarseness, the voice loses its resonance and dwindles down to a mere whisper. The pulse is more frequent, and febrile symptoms are more pronounced, with dyspnœa, irregular respiration, and attacks of suffocation. Inspiration is hurried and performed with difficulty. Vomiting relieves this distressing symptom, but it is of brief duration; the lips become purple, and there is paleness or a mottled appearance of the face.

The external symptoms are swelling and stiffness of the muscles of the neck, so that the enlargement often becomes even with the face. An efflorescence is frequently observed upon the skin, very much, in some cases, like scarlatina, but it is of shorter duration. Exanthems often appear over the face, chest, and abdomen. These are raised, have a rough appearance, and disappear upon pressure. In extreme cases there is excessive pallor of the whole surface of the body, and absence of heat.

In the malignant form, the symptoms are more marked and aggravated. The disease is ushered in with severe headache, especially in the crown of the head, pain in the back and ear, vomiting and epistaxis, and severe rigors. The pulse is small and weak and irregular; deglution becomes impeded, and yet the throat symptoms are not severe. The patient complains of an unusual sense of oppression and debility, and there is a most intolerable fetor, strongly marked and distinguishable as the odor of variola. Often restlessness or drowsiness are seen, dullness of mental faculties, and in a few cases, coma. The eyes are

heavy and watery; the skin has a cold and clammy feel; the sphincters are relaxed with involuntary discharges, and often petechiæ are seen over various parts of the body. The face is pale, shrunk; the internal fauces appear of a dark color; the tongue dry. There is the appearance of profound blood poison,—delirium supervenes, and the sick die in a comatose condition, or are suddenly taken with paralysis of the heart. Sometimes cases of malignancy creep on deceitfully,—begin as mild cases and end in the severest forms of the disease.

The fever which ushers in diphtheria is not in all cases marked, nor is it of much prognostic importance, for, in light attacks, the temperature may rise to 104° or more, while in severe malignant cases it is quite low; we have noticed it at 98° F. Generally it arrives at its maximum point about the fourth day, and then it begins to decrease, until it falls to nearly a normal state. Usually there is more heat in the night than in the daytime. If some new complication starts up, there is often a sudden rise of temperature denoting some local trouble, or it has some relation to the extension of the malady or putrefactive changes in the membrane. A gradual increase or decrease does not always betoken a favorable or unfavorable issue of the affection. Wunderlich believe that the temperature in diphtheria has but little prognostic value, while other observers, as Faralli and M. Labadie Lagrave, maintain that the thermometer furnishes data for diagnosis and prognosis. There is but little doubt that fever is commonly present, but the usual manner of obtaining the temperature does not always indicate its presence, or the lightness or gravity of the disease.

In slight forms of diphtheria, there is no irritation of the kidneys, or trace of albumen, but as the disease becomes more severe, we find the urine highly colored, and of high specific gravity. In some instances there seems to be a partial absence of this fluid. The urine generally contains an excess of urea, and the microscope reveals hyaline, granular and epithelial casts, together with uric acid, oxalates, and urates; and occasionally phosphates are detected. Albumen, first pointed out by Dr. Wade, of England, is a frequent but not a constant attendant. It is an early symptom, sometimes occurring at or near the outset of the pharyngeal or laryngeal symptoms, but it may be delayed for many days. Its

presence may be intermittent, for it often disappears and reappears before convalescence sets in. Nor does the severity of symptoms indicate its existence, for it has been searched for in vain in malignant cases and been detected in the mildest attacks. Erberth, of Germany, states that two out of every three are affected with albumen. It generally continues throughout the disease until convalescence is established. Some few observers have considered it a dangerous symptom, but the preponderance of evidence is to the contrary, and that it has only a "limited significance in relation to prognosis and treatment." It is scarcely ever followed by any complications, such as anarsaca or uraemia. It is seldom noticed as one of the sequelae of recovery.

When the disease is inclined to terminate favorably, there is a subsidence of the general and subjective symptoms. The fever yields, the temperature of the body falls to that of health and sometimes below; the pain in the throat, in swallowing, diminishes; the tongue clears, the appetite improves; the urine becomes more plentiful, and the signs of exhaustion, often noticed, yield. The duration of diphtheria generally is from ten days to two or three weeks; but after convalescence has been comparatively established, then certain sequelae of diphtheria, such as paralysis and debility, often follow. These sequelae do not depend upon the virulence of the disease, for they may arise in any case, however slight the attack. Nor does the paralysis affect patients alike; in one case it may be partial, or confined to a single muscle, or there may be a complete paralytic condition of several muscles. The mucous membrane, naturally sensative, becomes insensible. The most general locality for this paralysis is the soft palate and larynx. The sensation and motion of the tongue and lips often become affected. The bladder, rectum, and the contour of the face are not often involved. When paralysis seizes upon the muscles of the pharynx, there is an inability to swallow drinks; they regurgitate and pass into the nose, or sometimes down into the larynx. Dysphagia is not uncommon. The taste is blunted, the power of expectoration lost, speech becomes nasal, the eye-sight is impaired so that fine print cannot be read, and the accommodation of the eye is deficient; the extremities have a sense of feebleness and coldness; tingling, formication and numbness, with sharp pains in

the feet, are experienced. The muscular system is often largely involved, so that the muscles become flaccid and without tone, and there is not the usual sensation of touch. These paralysis of different parts of the body signify partial lesions of the nervous centres. Sometimes other nervous troubles arise and continue for months after convalesence has begun.

Diagnosis. Diphtheria is generally recognized by the characteristic membrane of the fauces. Perhaps nine tenths of patients have this, and therefore the diagnosis is not difficult. But there are cases where there is so much deviation from the normal type, as to make it not easy to form a correct opinion of its true character. Inspection does not aid, for there is no membrane, or it is delayed in appearing. Then some are struck down with blood poisoning, and a typhoid state follows so quickly that diphtheria may not be suspected. In doubtful instances, one can be assisted in his conclusions if he take into consideration the character of the epidemic,—whether the disease has been in the building, or near the locality, or whether there has been exposure. The nature of doubtful cases is assured if the disease spreads or others become sick through contagion and infection.

But diphtheria may simulate other affections, as scarlet fever, tonsillitis, or pharyngitis, or confluent herpes, or follicular inflammation of the throat. The difference between scarlet fever and diphtheria is, in the former there is a deeper redness of the fauces. The constitututional symptoms are more severe, and if there is any membrane it is softer and easily detached. In tonsillitis, aside from the fever, there is extensive congestion and more or less unilateral tendency, as in diphtheria; but this affection subsides in a few days, or passes into suppuration, and then, of course, all doubt is removed. In confluent herpes, there is opportunity for mistake. No doubt affections of this character are wrongly classed as diphtheria, or how can we explain the apparent success of one physician, and the total failure of another, in their treatment of reported cases of this malady. One cures his cases with one remedy, and another is equally fortunate with something totally different; but when a typical case is met with, their boasted remedies are found to be useless. In this class of cases there is constitutional disturbance, but this soon abates,

Then there is no tendency to spread beyond its first appearance. There is considerable tenderness, on pressure, just at the angle of the inferior maxillary bone. The uvula and tonsils are tumefied, and of angry red color, while on their surface small irregularly shaped yellowish white spots will be observed. These spots are evidently of an apthous nature. There may be only one or two on the tonsils or uvula, or they may cover very thickly the soft palate. They do not often coalesce, or form patches. They yield to a simple wash of tincture of iron, or chlorate of potash. Often there is considerable prostration and muscular debility, but no paralysis or albumen. A patient having had this trouble may be subsequently attacked by diphtheria.

There is one other affection of the pharynx that may be mistaken for diphtheria, viz.: follicular pharyngitis. Here, there is a an exudation of small whitish spots over the follicles of the mucous membrane. Some of these may unite together, but as a general rule these are so discrete as to establish their true character, and then they are of short continuance.

If one is attacked with pain in the back, swelling and tenderness of the cervical glands, stiffness of the neck, albumen in the urine, prostration of strength, hurried respiration, fetor of the breath, or if there be the characteristic symptoms of laryngeal trouble, affecting the voice and speech, then the disease may be diagnosed as diphtheria. Some one of these symptoms, however, may be absent and yet the disease exist.

Prognosis. Previous good health renders the prognosis more favorable, while debilitated persons, or those weakened by disease, hereditary or acquired, or excess of any kind, are wont to succumb to the virulence of diphtheria. In mild cases, without much membrane, where there is slight fever, and little swelling of the fauces and glands, a majority recover without treatment. But the prognosis is often uncertain, and a positive result cannot be predicted, in any given instance, for cases seemingly mild at the outset may terminate disastrously, or relapses may take place after the subsidence of alarming symptoms, and death may occur at any moment. If the patient is young, the result is always in doubt; and then, absence of fever does not assure the case as free from danger. There may be complications in the disease, as measles,

scarlatina, pneumonia, etc., which would render the result more unfavorable. The dangers of diphtheria are, its extension to the larnyx and trachea and nasal passages, severe blood poisoning, sudden terminations of the disease by syncope, paralysis of the heart, septic poison, and as a consequence, an asthenic condition of the system. It is estimated that in severe malignant cases nearly one third die. The usual symptoms foreboding danger are refusal to take food, frequent vomiting, coldness and dryness of the skin, feebleness of the heart, hiccough, countenance full and bloated, pulse small and tremulous, breathing hurried, interrupted with sighing, urine very highly colored and turbid, the fauces of dark livid color, and an eruption of purplish blotches on the skin, or irregular cutaneous rashes. But all these symptoms do not show themselves in every fatal case. Sufficient, if several of them are noticed, to denote the malignancy of the disease. Cases of fatality come on now and then insiduously, where all the symptoms are seemingly favorable, and the phenomena of the disease are mild from the first.

A more favorable prognosis can be predicted if the disease appear at the end of an epidemic. Diphtheria is most fatal on its first appearance as an epidemic, gradually becoming less dangerous after a while.

Treatment. From the nature and causes of diphtheria, there would seem to be two indications for its treatment, that stand out more prominently than any others, viz.: to husband and support the strength of the patient, by all available means, and adopt such local and general remedies as will prevent poisons to the system from the necrosed pharyngeal, laryngeal membrane. All treatment of this malady, however varied the theories as to its character, generally agree in this respect. The believer in bacteria addresses local applications to the faucial region with all the energy possible, from fear that blood poison will emanate therefrom; and those who maintain the pharyngeal manifestations to be one of the results of a constitutional infection, resort to topical applications to prevent septic influences. The treatment usually advocated may be then divided into constitutional and topical. The means used to meet the first are few, and generally agreed upon by the pro-

fession, while the local remedies recommended are many and varied.

First Constitutional Treatment. At the outset, we would remark that all the surroundings of the sick room should be commodious, cleanly, and cheerful, with good ventilation and with a temperature of 68° F. There should be every facility to give the patient pure air, and accordingly all offensive excretions should be removed as soon as possible. The diet should be supporting and nutritious, both albuminous and farinaceous in form, such as a plenty of milk, with lime water if there be nausea or irritation of the stomach, beef tea in a concentrated form, eggs, milk, wine jelly, and other food of a light, digestible character. Often there is distaste for food on account of the difficulty in deglutition. In such instances it is the imperative duty of attendants to give due attention to nourishment, in spite of every difficulty. No existence of feverish symptoms should for a moment be an excuse for placing the patient on a "low diet." Death often results from inattentive nursing, from an unwillingness to press the listless sufferer to take the prescribed supplies of food. It seems to be an integral part of this affection to reject nourishment. But, notwithstanding this, the feeding should be systematic and at regular intervals in the night as well as the day time. If it cannot be retained, then nutritious enema should be employed, such as beef tea, and milk with wine. Next to nourishment comes the use of alcohol in some of its different forms, as giving the sick one the best chance to overcome the prostration of the disease. At first, only small quantities are demanded. No doubt there are cases where it is unnecessary to use stimulants at all, but when the chance of saving life is at stake, there should be no scruples in their employment, and they should be pushed with vigor. M. Sannè in his recent able work on diphtheria, says: "Of all the antiseptics given internally, alcohol is the surest. The more the infection is pronounced, the more it is necessary to insist in the use of alcoholic mixtures." In some cases, large doses seem to be required from the commencement of the attack. High temperature does not forbid its employment and when there is feebleness of the heart, a slow pulse, attacks of delirium, syncope, symptoms of extension and prostration, pinched features of the counte-

nance, and a shrivelled state of the skin,—these denote the severity of the malady, and stimulants should be given freely. It is astonishing to see what large amounts of alcohol are readily borne, without producing even odor of the breath, or any excitement. It matters little in what form stimulants are administered, provided they are of sufficient strength to give the necessary support. The success of Dr. E. N. Chapman, of Brooklyn, N. Y., in the use of alcohol is quite remarkable. ("Antagonism of Alcohol and Diphtheria," 1878, by E. N. Chapman.) He maintains that "alcohol is as antagonistic to diphtheria as belladonna is to opium or quinine is to malaria." His experience in the treatment of diphtheria without stimulants, is, that he lost every third or fourth patient, but after instituting an opposite treatment, when an epidemic was at its worst, he did not lose more than one in twenty. He accounts for his success in the use of stimulants, by the theory that diphtheria is a disease of the blood tending to the rapid destruction of this fluid; that the appearance of the fauces is secondary to this blood poison,—a local manifestation of a general dyscracy; that the fever is symptomatic, and that alcohol counteracts, neutralizes, or destroys the poison,—acting like a true antidote if promptly and liberally given." Dr. Chapman often gives quinine in connection with alcohol. But Dr. Kretzschmar (Hospital Gazette, June, 1879), of Long Island College Hospital, has employed alcohol alone with equal success. In one hundred and fifty-five cases reported at that hospital, one hundred and forty nine recovered and six died. No explanation as to the severity of the diseases treated accompanies the report of these cases; but if they were typical instances of diphtheria, then the success is noteworthy and deserves a more general trial.

Along with stimulants are other medicines indispensable to the proper treatment of diphtheria. Quinine is one of these. If there is headache, with high temperature, or vomiting, or symptoms of septicæmia, then this holds a prominent place. It should be given in small quantities, repeated every three or four hours. We would not advocate the custom of administering it in heroic doses as is the habit of some. As a heart tonic, or in enfeebled states of the system, to improve the appetite and give tone to the system, or

in the sequelae of this disease, it affords an excellent purpose. Its long continuance in any case is hurtful.

Next to quinine as a recuperative agent, iron is entitled to consideration. We think the perchloride is the best, whether used as a gargle, or taken in the stomach. From fifteen to thirty drops in glycerine diluted with water forms a good preparation. Its effect, as a gargle, upon the sensitiveness of the mucous membrane of the throat, is often marked, relieving frequently the soreness and pain in a very few hours. Its special value internally is in the later stages of the disease, for when there is fever and a sensitive stomach, it is injurious.

A good formula in conjunction with quinine is :—

℞

Quiniae. Sul.	ʒss.
Tinc. ferri. chlo.	ʒij.
Potass. Chlorati.	ʒij.
Syr. Tolu	℥jv.

Misce.

Give one teaspoonful every two to four hours, to a child of five years old.

Besides these two agents there are certain medicines classed as antiseptics, which are given internally more or less. These include carbolic acid, permanganate of potash, salicylic acid and its components, hypophosphite of soda, chloriate of potash and hydrate of chloral. Almost every medicine which has chlorine for a base, has had its advocates, and has been used in the treatment of diphtheria. It is an open question whether many of the medicines named have any direct power over the disease. Their employment is thought to counteract the destructive action of the diphtheritic poison, and we believe they are often useful. Sulphurous and sulphuric acid drinks are often grateful.

Local treatment. In the early part of the disease, ice, externally and internally, when the throat is sore, or there is a burning sensation, often relieves the anguish. Warm or hot fomentations or poultices, rubefacients, cotton waddings, &c., externally, even when

the membrane has attained considerable thickness, are beneficial. These have a tendency to modify the intensity of the pharyngeal inflammation.

The topical treatment of the membrane and throat has varied from time to time. Formerly, caustics were advocated, but they are now abandoned as having but little power over the local disease, and are, in fact, injurious. They serve to agravate rather than check the local process; besides, if the membrane is destroyed by these, it will return in a short time. The best agents for topical use are chlorate of potash, permanganate of potash, chloroform, hydrate of chloral, glycerine of borax, sulphur, bromine and carbolic acid. There are quite a large number of others recommended by different writers. Chlorate of potash can be used very freely and almost of any strength. It is always safe. Chloroform applied directly to the membrane, by a probang or sponge, often has a very soothing effect, and produces no burning or disagreeable sensation. It often destroys the membrane and arrests the extension of the local irritation. But to prevent the offensive fetor of the breath, there is nothing more effectual than permanganate of potash, and chlorinated soda. We use the permanganate gr. V. to ℥I of water; and the chlorinated soda ʒIV to ℥X of water.

It is imperative to use frequently and thoroughly some one of these preparations in all cases, when there is a membrane, either as a gargle or a spray. The membrane should not be forcibly removed, as there is not only great danger of injuring the healthy tissues, but it may cause much pain and suffering. The soreness occasioned thereby prevents the taking of proper nourishment.

There are certain agents which are administered best by inhalations, and have a solvent action upon the membrane. The steam of lime water is easily used and is often efficient. Dr. Cohen, of Philadelphia, recommends the fumes of lime in process of slacking, as being more efficient than sprays of lime water. Carbolic acid, salycilic acid, sulphurous acid and lactic acid in form of sprays are often useful. The room should be frequently saturated with some one of these agents, so that in every inspiration it may be carried over the local inflammation into the system.

The treatment of diphtheria in this country, as derived from correspondence with physicians in almost every state, consists in

the use of chloride of iron, alchohol, quinine, and plenty of nourishment, as general means; and as local applications, chloral hydrate, carbolic acid, tannic acid, chlorate of potash, alum, hyposulphite of soda and chloroform. Dr. Bradbury, of Maine, recommends the inhalation of the steam of a strong solution of acetate of potash; Dr. Hewitt, of Lexington, Ky., relies chiefly on salicylate of soda, chlorate of potash, quinine, stimulants, and steam inhalations night and day. Dr. Force, of Lexington, Ky., says a "supporting treatment and stimulations have proved best." He employs quinine. Dr. Bush, of Delaware, uses iodine ointment externally, with carbolic acid, tinc. feri. chloral and tinc. cincho. co. in glycerine internally. Dr. Buddington, of N. Y., recommends a spray of carbolic acid, 1ʒ into 6 oz. of water, by atomization. Dr. McClelland, of Illinois, finds blisters, at the angle of the jaws, beneficial.

The treatment of diphtheria in Europe does not vary much from that in this country. Sir William Jenner commences the medication with a dose of calomel and jolap. The agents generally recommended for internal use are tinc. feri. chlorid, quinine, and alchohol. Morphia and chloral are employed to combat sleeplessness.

The antiseptics recommended internally are iron, carbolic acid, snlicylic acid and its salts, hydrate of chloral and chlorate of potash.

Expectorants are senega (which was first noticed by Dr. Archer, of Philadelphia, one hundred years ago), corb. ammonia and the balsams(copaiba and cubebs).

The local treatment recommended to get rid of the membrane, is the use of lime water, sacharate of lime, a solution of caustic potash, chlorate of potash, iron and lactic acid. The latter medicine is thought the most reliable as a solvent of the membrane. Permanganate of potash is considered useful. Some of the Italian physicians rely upon sulphur as a local agent and for internal use. Benzoate of soda is thought to be almost an antidote by some Russian physicians, given internally and as a wash.

The local applications of ice and steam are highly prized. Ice bags to the neck in the first stages are found to be agreeable and beneficial. Steam inhalations exercise a favorable influence on the local process. Oertel says the internal use of moist warmth facilitates suppuration more than any other agent.

Prophylaxis. Diphtheria is, as we have seen, a constitutional disease, and its poison operates in the system through the blood. It is diffused through exhalations of the patient by means of the air, clothing, such as towels, napkins, handkerchiefs, &c., and other things which come in contact with the sick. The disease is often obtained directly by the act of kissing, coughing, and sneezing; hence, to stop its ravages and to prevent its extension, is the first duty of the physician. It can be restrained within certain limits, as effectually as other epidemic diseases. It has a cause, and very often the cause may be destroyed and the disease prevented. To do this—

1. The sick should be isolated and no communication with them should be allowed, except from one or two persons, who should have the sole charge of the patient. As a rule, the physician and nurse should be the only persons admitted to the room. In the intercourse of nurse with others care should be taken to remove and disinfect all clothing worn.

2. Every sick room should be well warmed with a liberal supply of fresh air, plenty of sunlight, and properly ventilated. It should be cheerful; and furniture, such as carpets, needless clothing, upholstered furniture, and other things to which the poison will cling, should be taken therefrom and disinfected by carbolic acid, or chloride of zinc, or subjected to chlorine gas.

3. All excretions of patients, whether from the mouth, kidneys, or bowels, are dangerous and should be at once removed. Soft rags, for cleaning the mouth and nostrils, are better than handkerchiefs, and should be immediately burned, or thrown into some disinfecting fluid. All soiled clothing should be put into boiling water, or water containing chlorinated soda, or lime water, or chloride of zinc. All vessels for receiving discharges of patients should contain some disinfecting fluid before carried through the house. Water-closets or privies, where these excretions are thrown, should be kept clean, and daily disinfected by a solution of nitrate of lead, or copperas, or lime.

4. When death occurs the body should be placed immediately in a casket or coffin with disinfectants, and be tightly and finally closed. Public funerals should not be held at the infected house,

or elsewhere, unless the casket be hermetically sealed. It is better to keep children from such assemblages.

5. On recovery the patient should be, thoroughly washed with some disinfecting fluid and divested of all infected clothing. Children should not be allowed to go to school, or associate with others, until a certificate from an intelligent physician be obtained certifying that they can do so without injury to others.

6. Rooms, and all clothing, where the disease has been, should be at once subjected to a thorough disinfection. Chlorine gas is probably the best, but sulphur fumes in closed chambers may be sufficient. After being subjected to one of these disinfectants from four to six hours, then the room should be opened, and exposed to the air and sunlight for many days. Anything that can be boiled without injury may be so treated or subjected to steam, equal 240° F. It is better to whitewash the ceilings, and wash all wood-work with water, to which carbolic acid, or chlorinated soda may be added.

The above rules apply to the sick room and its internal arrangements, but there are other things essential to check the extension of diphtheria. No doubt that antiseptics given internally are serviceable, such as salicylic acid, sulphurous acid, alchohol in some of its forms. These may give tone to the system, and help it to eliminate the poisonous miasm. But cleanliness tends to prevent and mitigate the disease. This applies to the outside as well as the inside of the house. Uncleanliness affords means for spreading certain infections. The human system cannot withstand easily the depressing influences of filth. Avoid, then, everything which depresses the vital energies, and tends to promote disease, such as impure air, impure water, crowded assembliès in ill ventilated halls. Rooms shut up for weeks, or months, from which the sunlight has been excluded, are unhealthy. These beget a dampness and an atmosphere that is apt to irritate the naso-pharyngeal mucous membrane. Every room of a house should be often open to fresh currents of air, and if possible sunlight should be freely let in to destroy the germs of disease.

Much of the origin of diphtheria arises externally to dwelling-houses. Imperfect drainage is one of the chief causes. Care

then should be used to drain grounds under and around every dwelling, to have proper ventilation of cellars, and to furnish egress to impure and foul air under cellarless rooms. No vegetable or animal matter should be suffered to decompose in or near inhabitated places. All refuse matter, solid or liquid, should be at once removed. Great care should be used in the construction of water-closets and privies. They should be so located as not to contaminate the air around, and be water tight. It is requisite that they be often cleaned, and during the spring and summer months it is well to throw into them lime ashes or a solution of coperas water, so as to disinfect and prevent the issue of offensive odors.

A great danger comes from permitting sinks to pour their contents upon the surface of the ground, or into cesspools. Every dwelling should have carefully laid drains, well trapped, with proper means of ventilation into the open air. Sewers should never have uninterrupted communication with any house.

Then in regard to drinking water, there should be scrupulous care that its source and surroundings be kept free from all the contaminations of filth. Chemical demonstations of nitrogenous compounds in water, is a warning which should never be disregarded. These impurities are caused often by surface drainage or from drains, gas-pipes, cesspools and vaults placed too near wells or springs. Wells should have access to open air and should be often cleared of impurities, and any odor or offensive taste therefrom points to danger in the use of natures beverage. Whenever diphtheria appears, sporadically or endemically, there is a filth-cause, and it behooves parents and owners of houses to trace out its origin, and prevent its recurrence.

APPENDIX.

Illustrations from reports of physicians, in Europe and United States, of the conditions in which diphtheria is formed.

DR. JOHNSON, England: "Many instances have come to my knowledge in which fetid fæcal emanations have appeared to be the direct cause of diphtheria. I look upon the occurrence of diphtheria as an indication of the necessity for a most rigid inquiry into the condition of drainage and water supply."—*Braithwait's Retrospect, Vol. 61.*

DR. TOTTENHAM: "Twelve deaths from diphtheria. Every one from foul air, or some serious defect in house drains."

MR. BATEMAN: "House drained into a cesspool. The accumulation of many months was emptied into it. Offensive smell reached the house therefrom. Three days after, four children had diphtheria."—*Braithwait's Retrospect, Vol. 61.*

MR. SALTER: "Had a great many cases traceable to sewage poisons."—*Braithwait's Retrospect, Vol. 61.*

ARTHUR RANSOM, British Med. Journal, Feb., 1875: "Diphtheria is often connected with defective house drainage, or to leakage from private cesspools."—*Braithwait's Retrospect.*

DR. CAULKINS. Report of Mich. Board of Health: "Nine cases of diphtheria in one family; well water smells and tastes bad; privy seven rods from house; no other cases of the disease in town; marshy ravine just back of house; a ditch just opened in it."

ARCADIA, Michigan: "Nine cases of diphtheria. Cellar with no ventilation,—had not been cleaned for years."

FROM MASSACHUSETTS BOARD OF HEALTH, 1876.

DR. NICKERSON. Lowell, Mass. "First cases of diphtheria were noticed here in September and October. Odor from the vaults in house No. 1, powerful; damp garden behind. House No. 2, three cases. Under the sitting room an unventilated cellar, where hens had been kept. A drain passes under the floor of main sleeping room. Smell of vault was so strong that the patient had to be removed to another part of the house."

CHARLESTOWN, Mass: "In every case of which I have been personally cognizant, there has been found defective drainage."

BROOMFIELD, Mass.: "All cases of diphtheria have been traceable to bad surroundings, sinks, privies or damp rooms."

EAST BOSTON, Mass.: "Where there are no sewers, diphtheria has been quite prevalent. In every severe case, defective drainage."

NEWTON LOWER FALLS, Mass.: "Six fatal cases. In two cases, well close to the house; surface water ran into the well."

PITTSFIELD, Mass.: "Forty-five fatal cases. Families lived in small unventilated rooms, overheated; diet inferior; sanitary defects generally outside the house."

SPRINGFIELD, Mass.: "Diphtheria evidently caused by dampness, bad water, defective drainage, no sewage."

TAUNTON, Mass.: "Causes of diphtheria are dwellings in swamps, and the use of surface or swamp water for domestic purposes; where wells are near privies and cesspools; privies not cleansed or closed; external surroundings, wet and undrained; in vicinity of night-soil deposit; stagnant ponds; cellars not cleaned, wet and filthy."

DARTMOUTH, Mass.: "Disease confined to low land surrounded by hills. Ten patients attended school in a house situated in a low, swampy place, so much so that flag grows in the yard."

GREAT BARRINGTON, Mass.: "Diphtheria occurred in old houses, with decayed timbers in rooms under which there were no cellars. Dampness and foul air had their influence in every case."

HATFIELD, Mass.: "Localities invaded: wet sinks empty on the surface; privies on the surface; drainage poor."

HADLEY, Mass.: "Six cases in a family of the filthiest horrible character; water drank, was from a well close to the barn-yard, with half a dozen pigs in it."

GREENLAND, Mass.: "Three cases where the houses were filthy, with a swamp on the east side, and a long reach of meadow on the west."

MALDEN, Mass.: "The localities attacked have been mostly damp and marshy."

GLOUCESTER, Mass.: "Diptheria quite prevalent. Privies are in use with loose walled vaults, which allow soakage into the ground, and consequently ground contaminations of the sub-soil and of the

wells. No water supply or sewage. Diphtheria most prevalent and fatal in the lowest, worst drained, most filthy part of the city.

DR. CHEEVER, Boston, Mass., speaks of cases of recurrent sore throat, which ceased when a defect in soil pipe was remedied.

DR. EDES, Boston: "The diphtheritic croup, he had seen, occurred in a badly drained district."

DR. HASTINGS: "Have noticed more diphtheria and typhoid fever in parts of city (Boston, Mass.) where drainage is imperfect."

DR. NICHOLS, Roxbury, Mass.: "These diseases (diphtheria and typhoid fever) are more decidedly numerous in those districts imperfectly drained, or subject to the action of sewer gas."

Such references as above found in this report could be muliplied.

DR. FRANCIS, Newport, R. I.: "Want of proper attention to hygiene; bad air."

DR. FIELD, Clinton, Iowa: "Attributes to damp cellars, unventilated, and to houses with little elevation from the ground, were 'ground air' accumulates."

DR. BUSH, Wilmington, Del.: "I believe diphtheria to be frequently the product of impure air, arising from want of cleanliness, and the emanations from privies."

DR. BLACK, Newcastle, Del., where the disease prevailed in 1879, ascribes the cause to the drainage of an extended marsh, which created an impure atmosphere.

DR. MACKIE, New Bedford, Mass.: "A specific poison, aided and fostered by filth and bad drainage."

DR. SNOW, Providence, R. I.: "Impure air coming into houses through sink spouts, or water closets, or set basins, or in any way, would naturally be more concentrated and more dangerous as the houses are more shut up on account of cold weather."

DR. PRENTISS, Washington, D. C.: "Diphtheria can be traced to unsanitary surroundings, defective sewer. This cause and contagion accounts for a great majority of cases."

DR. HOBART, Clinton, Iowa: "Defective drainage and bad sewage are the principal causes. Four years ago, one hundred cases on the borders of an open slough used as a drain for the town."

DR. LAWRENCE, Hot Spring, Ark.: "Where drainage and sewage is incomplete; water with organic filth."

DR. CONN, Concord, N. H.: "All conditions of life, but in soil in some way contaminated by filth poisoning."

DR. RICHARDSON, Philadelphia, Pa.: "Damp houses on damp soils; houses in which sewer gas enters."

DR. SHERMAN, Ogdensburg, N. Y.: "Diphtheria prevails where there is carelessness in regard to privies and drainage; emanations from decomposing matter from cesspools; slop drains, but above all, from privy vaults."

DR. MCCLELLAND, Knoxville, Ill.: "In water polluted with animal and vegetable remains. I am inclined to ascribe its etiology to filth."

DR. CHAMBERLAIN, Lawrence, Mass.: "Diphtheria prefers a cold, damp soil, whose surroundings are notably unsanitary."

DR. THURSFIELD, England: "There is a specific connection between structural dampness of habitation and diptheria, not temporary dampness or from a fall of rain."

PROF. J. L. SMITH, New York City: "The most severe cases seen by myself, occurred in the upper part of the city, along the old water courses, where, in consequence of street grading, water was stagnant and impregnated with decaying animal and vegetable matter."—*Diseases of Children, 1879.*

DR. F. P. ATKINSON, England: "An outbreak of diphtheria, caused, I believe, by the mixing of sewage contaminated water (which had been used for washing cans) with milk. It was limited to one dairy, and ceased almost immediately upon a change being made in the water."—*British Med. Jour., 1879.*

DR. THOMAS, Savannah, Ga.: "I think it is a filth disease, though there are instances hard to account for on the dirt hypothesis. It certainly spreads more in dirty, filthy localities."

PROF. T. J. HURD, Galveston, Texas: "Soil independent of filth, I do not think, exercise any agency in producing it. Filthy apartments and the want of proper ventilation, with general insanitation, have been, according to my observations, instrumental in producing."

DR. SCOVILLE, Lebanon, Ohio: "Houses having damp and filthy cellars, decaying vegetables, have diptheria."

DR. LESSING, Winona, Iowa: "Filthy habits, impure air and water. In a small town, eighteen miles from here, surface water was undoubtedly the cause."

DR. PUTNAM, Montpelier, Vt.: "Bad hygienic surroundings, and generally using impure water."

DR. WOODWARD, Conn.: "In damp soils, where the sewage and drainage is neglected."

SUSPENDED ANIMATION.

BY WILLIAM THAYER SMITH, M. D.

That border land which lies between life and death has always been an object of interest to men. Many a legend has been told of it. Scientists have studied and speculated upon it, and when, perchance, any mortal has returned thence, curiosity has listened eagerly to his tale, or longed to hear the experiences which were unutterable. The stories of the Sleeping Endymion, the Seven Sleepers of Ephesus, the Sleeping Beauty, and Rip Van Winkle are a few of the many myths of like purport. In the tale of the "Man with the Broken Ear," by Edmund About, the hero is carefully desiccated and in this condition lies for many years. He is then reanimated by supplying anew the water which had been withdrawn from his tissues. He finds himself in a new world, and has strange experiences. The narcotic which Friar Laurence gives to Juliet in the great tragedy, is one which will cause her pulse to cease beating.

> "No warmth, no breath shall testify thou livest.
> The roses in thy lips and cheeks shall fade
> To paly ashes; thy eyes windows fall,
> Like death when he shuts up the day of life.
> Each part deprived of supple government,
> Shall stiff, and stark, and cold appear like death,
> And, in this borrowed likeness of shrunk death,
> Thou shalt remain full two and forty hours,
> And then awake as from a pleasant sleep.

In this matter, speculation has far outrun experience. But there are underlying facts on which the superstructure of fancy is based, —facts which have suggested and nourished the thought of a state which is neither life nor death, a state wherein the vital functions are at pause, and which yet lies this side the undiscovered country.

The most familiar of these is sleep, "Chief nourisher in life's feast."

All animals sleep, and probably all plants have an analogous periodical repose. The mystery of sleep is impressive, though so familiar. The change from activity is so great, the suspension of many functions so complete, the condition for the time so helpless, that it awakens our interest and wonder as we contemplate it. Supine and motionless, insensible to outward things, vacant of thought or feeling, the sleeper is temporarily dead. First the will abandons the helm, then memory fades, thought and sensation are suspended, consciousness ceases, and the man becomes simply a vegetating organism. There are various degrees of slumber, from the most profound oblivion to that in which the conscious self, half recognized, wanders through dreamland with incoherent thoughts, possessed by fancies that charm or affright. While the higher faculties are at rest, those bodily functions which are essential to the maintenance of life, continue; digestion and nutrition are maintained; respiration and pulsation are only slightly reduced in frequency. During working hours the expenditure of nervous force exceeds the income. During sleep the tissues are restored and charged with new material. This is the final cause of sleep. Its immediate cause lies in a sense of exhaustion. But habit and many accidental circumstances, as pressure on the brain, cold or impure blood, tend to induce it. Physiologists have advanced various theories as to the condition of the brain in sleep. One celebrated writer maintains that there is a transient molecular change, by which it becomes more solid. Others think that there is a congestion of blood in the cranium. But the prevalent view is that the condition is one of cerebral anaemia.

Hibernation is a deeper and more prolonged sleep. It is not, like sleep, a universal characteristic of animal life, but is a special adaptation of certain species to their surroundings. And yet it pertains to a large proportion of the animal world. Insects form four fifths of the whole number of species in the animal kingdom, and very many of them hibernate. Some hibernating species are found in all classes except birds. It is a singular fact, that a century ago the belief prevailed among naturalists that swallows passed the winter months under water in a torpid state. Even so

great an authority as Linnaeus sanctions this opinion. The examples most familiar to us are frogs and eels, bats, dormice, hedgehogs and bears. The term hibernation has been objected to, because some animals enter this condition in the heats of the tropics, and the bat every twenty-four hours. But these are exceptions. It remains true, that in general, this state is a wintering. In normal sleep there is a slight reduction of temperature, respiration and circulation. In hibernation, the temperature is maintained at a point little above that of the surrounding atmosphere. In a marmot, for example, whose natural temperature is 102° F., it will sink as low as 43° F. The respiration cannot be detected by ordinary tests, though it probably does not entirely cease. The amimal is motionless and eats nothing, and experiment has shown that food introduced into the bowels just before hibernation, remains unchanged. The excretions cease, and the loss of weight is very slight. Contradictory statements are met with on this point. It is said, on the one hand, that bears and other animals, which enter the state of hibernation fat come out in the spring emaciated and weak; and on the other, that they loose little or nothing of weight. Probably the latter statement is the correct one. But if roused from their torpor early in the season, before their food is plenty, a few days will exhaust their store of accumulated fat and leave them starved and lean. The heart continues to beat feebly and slowly. Sometimes the pulsations are imperceptible by the ordinary tests. The hamster, a species of rat, has in activity a pulse of 150 per minute; in hibernation this is reduced to 15 per minute. Dormice, in activity, have a pulse so rapid that it cannot easily be counted. In torpor it is reduced to 16 per minute. The duration of this condition varies. Some animals rouse themselves at frequent intervals and seek food—as the hedge-hog. Others, as the dormouse, remain four or five months without waking. Spallanzani found that frogs and toads became torpid in every possible situation and in all circumstances, when exposed to the proper degree of cold. He kept some of these creatures for three years and a half in a torpid state without food. They recovered their vitality in the month of May, on being put into a reservoir where they multiplied.

Here the question naturally arises, "what is the distinguishing characteristic of the hibernating animal?" Dr. Marshall Hall, who studied the subject, holds that it is increased muscular irritability. In all animals he says respiration and muscular irritability are in inverse ratio,—the measure of respiration being the amount of oxygen inhaled, and the muscular irritability being determined by galvanic tests. In birds, respiration is high and muscular irritability low. In reptiles, and in the fœtus, respiration is low and muscular irritability high. In hibernation respiration is reduced to a minimum, and all the blood becomes venous. Now it is the passage of arterial blood through the cavity of the left heart, that excites its rhythmic action. Unless the muscular irritability of the inner surface were greatly increased, this venous blood would be insufficient stimulus and it would stop. But increased irritability compensates for impaired character of the stimulus and the muscle continues to contract. If a hibernating animal is suddenly roused and made to breathe rapidly the pure air, it will die—the unnaturally sensitive heart being over excited. How irritability is increased, he does not know.

There are two objections to this theory: 1. It assumes that the passage of arterial blood through the heart, is the sole cause of its rhythmic contraction. Now the heart will contract in a cold blooded animal, for from ten to twenty-four hours after removal from the body, with no blood in its cavities. When the heart of a warm blooded animal is exposed and respiration is checked, impairing the purity of the blood, the immediate effect is an *increase* in the vigor of the heart's action. The delay in the circulation, arises not from the lack of the natural stimulus to the contractions of the heart, but from the retardation of the impure blood in the capillaries. To overcome this the heart labors with increased energy until it is engorged, distended and paralyzed.

2. The theory that the irritability of the heart is increased in hibernation is not based on experiment, but is an inference from the theory just mentioned, that the arterial blood in the left heart is the cause of its contractions. Therefore, the argument is, if the blood in the left heart is no longer arterial but venous, the heart muscle if it still contracts, must be more irritable. But is there any evidence of heightened muscular

irritability in the torpid animal. Certainly the evidence seems to be on the other side. "Marmots are not aroused from their torpid state by the electric spark, strong enough to give a smart sensation to the hand. They are insensible to pricking their feet and nose, and remain motionless and apparently dead. Bats are also insensible to any kind of stimulus, except heat, or a stream of air blown upon them. Wounds have been inflicted and limbs broken without the mutilated animals expressing any sign of pain." It would seem that muscular and nervous irritability are reduced proportionally with respiration.

If we examine the anatomical structure of the hibernating animal, we find no marked difference to explain this habit. Some have the capacity for accumulating fat, but others do not.

Probably the law which impels the animal to assume the torpid state is impressed upon the nervous system, as is the case with regard to natural sleep A falling temperature and the absence of food awaken sensations which lead the animal to seek a den or hole or other unventilated retreat, to roll himself up in an attitude in which circulation and respiration are checked, and in this condition the nerve forces which control and regulate the functions, are gradually reduced in vigor. The different functions must maintain their harmony and due proportion. If the respiration were reduced while the activity of the circulation continued, distress and death would follow. If respiration were maintained while the other functions were inactive, over-stimulation and death would follow. If the nutritive and excretory processes were still active, starvation would ensue. The ability to sink by an easy and harmonious declension of the vital powers to a very low vital state, and to exist for a long time in that state, is the property which nature has imparted—by what long ages of training we know not—to the hibernating animal. So she folds these humble children to her bosom and lulls them to slumber till spring restores their accustomed food.

The most notable instances of suspended animation in man occur in catalepsy. This is a rare nervous disease allied to hysteria and epilepsy. Its predisposing causes are the hysterical diathesis, blood poisoning and cerebral disease. Its immediate causes are nervous excitement or sudden emotion. Niemeyer remarks that in the

blanched countenance and uplifted hands and fixed attitude of persons struck with sudden fear or horror, we see slight indications of this condition. It is characterized by suspension, more or less complete, of consciousness, volition, and special and general sensation. The muscles are rigid and yet flexible, so that the limbs may be made to assume any attitude, and will remain as they are placed for a long time in positions which in health it would be painful and difficult to maintain. This is the pathognomonic characteristic. Respiration is generally natural and the pulse quickened. The temperature of the surface of the body is peculiar, only in the unequal distribution of heat—a symptom which is common to many nervous affections. The countenance may be flushed or pale. The attack is sudden. The person may be seized while engaged in some ordinary action, as eating or talking. His motions will be arrested, and he will appear as if changed to marble or wax, fixed in the attitude in which the fit found him. Sometimes recovery is equally sudden, and he will resume the thread of conversation where it was interrupted, or continue the act in which he was engaged, ignorant of all that has intervened. Sometimes one or more faculties are awake, while the rest are locked in insensibility. In Duncan's Medical Commentaries there is an account of a young lady who lay in a cataleptic fit, fully aware of the preparation for her burial going on around her, filled with horror and despair, but unable to make any sign. St. Augustine tells of a presbyter named Restitutus, who could fall into the cataleptic state at will, by having a sound like crying made near him. He became motionless, breathless, insensible to pricking, pinching or burning; but he said that he heard the voices of people, as if a long way off. In the severe form of the disease the respiration apparently ceases, pulsation is imperceptible, the face pale, and the surface of the body cold. It simulates death, and has given occasion to premature burial. Says Dr. Chambers: "In the old pre-christian times, we do not hear of this. Any cases of apparent death that did occur, were burnt or buried, or otherwise put out of the way, and never more heard from; but after the establishment of christianity, tenderness, sometimes excessive, for the remains of departed friends, took the place of the hard, heathen selfishness. The dead were kept closer to the congregation of the living. This led to the

discovery that some persons, indeed some persons of note, among others Duns Scotus the theologian at Cologne, had got out of their coffins and died in a vain attempt to open their vaults." An interesting case of cataleptic trance is that of a clergyman of New Jersey, in the last century, Rev. William Tennent. The facts as told by himself, to two of his friends, were as follows: "After lying ill of the lung fever for about six weeks, when he was nineteen years old, he died or appeared to die in the same manner as persons generally do. This happened on Sunday. On Monday morning when they went to put him into the coffin, a man who was assisting, called out to the other to lay him down, for he felt his heart beat and was sure there was life in him. His brother derided this assertion, and indeed there was every thing to induce a belief that he was dead. The length of time he had been sick, his emaciated body, his sunken eye—all appearances were against remaining life. But after this declaration it would not do to bury him, and the funeral was postponed until Tuesday, when the people again assembled. In the meantime all means had been used to restore life. They were again about to put the body in the coffin, when the same man called out, 'Lay him down, for I am sure there is life in him.' No other person believed there was life, and yet, so long as he retained this opinion, they could not allow the funeral service to proceed. It was again postponed until Wednesday, and the means of restoring life meanwhile applied with the utmost diligence and vigor. At the time appointed, the people again assembled, and the doctor was sitting on the bedside with a looking-glass in one hand, and a feather in the other, trying them alternately on his mouth and nose. At the very last moment, to the unspeakable surprise of all, he opened his eyes and gazed on them. They pried open his mouth and conveyed some liquid into his stomach, and by degrees he revived." During this trance, he was in an ecstasy and thought himself in heaven, where he heard and saw unutterable things. On coming out of it, his memory was so far affected, that he could neither read nor write, and had to learn his alphabet over. As his strength returned his memory returned. It was three years before his mental ecstasy entirely passed away.

Fernand Papillon tells an incident of a different character. About the year 1842, Cardinal Donnet, afterwards a member of

the French senate, then residing at Nantes, gave up life after a long illness. His heirs made arrangements for a grand funeral, and while the performance of a requiem was going on, the dead man returned to life, and stirred in the coffin that stood in the middle of the church. When carried home he soon regained his health. Some time afterwards the curé, not caring to be at the trouble of the burial ceremonies for nothing, sent a bill to the ex-corpse, who declined to pay it, and referred the curé to the heirs, who had given orders for the funeral. A lawsuit followed, with which the papers of the day kept the public greatly amused. A few years ago the Cardinal, in the senate, told his own story of the circumstances under which he narrowly escaped being buried alive. There are many weird and ghastly tales, involving apparent death and resurrection, of which some are false, some have a slender foundation in fact, and some are true. There is no absolutely certain test, simple enough to be used by any one, to distinguish betwen real and apparent death, before putrefaction begins. Not long ago a prize of 20,000 francs was offered by a gentleman in France, to the discoverer of an infallible sign of death. A commission appointed in 1848, by the Academy of Science in that country, to award a prize for essays on the subject, says in its report, "Death is certain when positive cessation of pulsations of the heart in the subject has been ascertained, which is immediately followed, if it has not been preceded by cessation of respiration, and of the functions of sensation and motion." It is to be remembered that the whole organism does not, in any case, die instantly and at the same moment. Death gradually assails one function, one part after another. When the heart stops, life has surrendered at the citadel and the end is sure; but long after, the struggle continues in the outposts. The muscles will respond to electric stimulus for many hours. The effect of reanimating a dead body, by the application of a battery, to take the place of the lost nerve force is very striking. The hair and nails continue to grow after the heart stops, and digestion goes on for a short time, as Spallanzani proved by experiment. Muscular irritability fails first in the left ventricle of the heart, then in the intestines and right ventricle, afterwards in the voluntary muscles of the trunk and limbs, and last of all in the right auricle, which Galen calls the *ultimum moriens*. It does not last

ordinarily longer than seventeen hours. When death occurs by natural decay of the powers, the process really begins long before, and reaches a natural climax in the stopping of the heart. Many functions may be lost, organs may become useless, portions of the body may be destroyed, but as long as the heart continues, however feebly, to impel the vital current, the organism continues to live. As soon as life is totally extinct, the change begins whereby the tissues are resolved into their elements, and passing into new organisms share in new and varied life processes.

When the beating of the heart is no longer recognizable by the touch, it may be heard with a stethoscope. This instrument skilfully used, is an absolute test prior to the appearance of putrefaction. In countries where law requires a speedy burial, it is probable that the living are at times entombed. But calaleptic trance is exceedingly rare; and in lands like our own, where the dying and the dead seldom lack the watchful care of friendly affection and professional skill, such an event can seldom, if ever, occur. In the early part of this century, dead houses were established in Germany, in which bodies might be kept for sometime, and they were so arranged that any movement of the supposed corpses, would be observed by the attendants. It is said that during their whole existence, no case of return to life has been known.

A condition similar to the cataleptic may be induced by drugs. With nitrite of amyl, Dr. Richardson suspended the life of a frog for nine days, decomposition having actually begun in one web, and then restored him to vigorous activity. Some pigeons to whom he administered chloral were apparently absolutely dead and were thrown aside on a shelf. The next morning they were fully restored and uninjured. Atropia and opium, have produced a state which was hardly distinguishable from death, and the syncope of ether is sometimes alarmingly like it.

The question whether total suspension of function in any living organism can ever be followed by restoration is not settled. We cannot reason a priori because we do not know what life is or what death is, except as a negation. In our experience, life is almost universally associated with functional activity. And yet there are cases in which life persists, when function seems to have ceased. In the seed for example. In a seed the living germ is formed,

pabulum is stored up, and then it being ripe remains in statu quo, until it is exposed to the influences of moisture and heat, which quicken it. And the period is sometimes very long. The story of the mummy wheat, raised from seed which had been held for two thousand years, in the shriveled hand of a dead Egyptian, is familiar. Dr. Lindley a learned botanist, asserts that some raspberry seeds taken from a Celtic tomb, which numbered seventeen hundred years, produced raspberry plants in the garden of the Historical society at London. If we are sceptical as to these stories, we can at least receive the statement of Dr. Gray, that leguminous seeds will generate after seventy years. Again, during our winter the shrubs and smaller trees must be frozen through. Whatever small quantity of fluid remins in the living cells of the cambium layer, must be congealed, and this seems to involve a total suspension of function. Chrysalids, and insects and eggs of insects, which remain near the surface of the ground, must be in like condition. Yet plants and insects resume their activity in the spring unhurt. It is said that fishes may be frozen and reanimated by careful thawing. But in this case the state is one of partial congelation only. Such an animal when wholly congealed, so that circulation is stopped, always dies. If the heart still beats, the all-pervasive network of capillaries must be open, at least in a part of the body; the blood must be fluid, and the tissues cannot be wholly congealed.

Sometime within a year past, a remarkable hoax was published in an Australian newspaper, involving a theory of suspended animation. It was credited and copied into London papers and excited the attention of Dr. Richardson, who wrote an article on it, setting forth the scientific grounds on which it rested. The story was so skilfully constructed and lay so close to the bounds of possibility that its success was not strange. It was a detailed account of a new process for suspending the life of animals for convenience of transportation and preservation. One Signor Rotura, a learned scientist, had discovered a drug, allied to curare, which, when injected into the veins, threw the animal instantly into a state of death-like rigidity and stupor. He had joined to himself a Mr. Grant, a philosopher, who was skilled in the application of cold for scientific purposes. By keeping the animal

exposed to a low temperature, the condition induced by the drug was indefinitely prolonged. In the refrigerating apartments used by the experimenters, were piles of sheep and pigs, stiff and dead, apparently. In order to restore one of them for the benefit of the reporter, Signor Rotura carries him into another room, where are tanks with hot and cold water supply. Having regulated the temperature of the bath, with the aid of a thermometer, he places the lamb in it, in order gradually to restore the natural heat of the body. This being done, he quickly opens a vein and injects a few drops of the antidote to the drug first used. In a few moments the lamb, who has been in the suspended state for nineteen days, is bounding about and nibbling the herbage. The great and obvious advantages which this discovery would confer, were suggested in the article, and it is said that several Australian farmers, who had read it, made long journeys to Brisbane to see the process for themselves. Now there are drugs which will produce the condition described as the first stage of this process. Dr. Richardson's experiment with nitrite of amyl, already referred to, is an illustration. The sudden restoration of life by therapeutic agents has also its parallel in medical experience. A patient in Bellevue Hospital lay recently at the point of death. His brother, who had been summoned, came too late. The sick man had passed beyond speech or recognition of friends, and the farewell words could not be spoken. The brother was in distress. The attending physician had compassion on him and undertook to gratify his wishes, not by miracle, but by medical skill. He opened a vein and injected aqua ammonia. The flagging heart roused itself. The light of intelligence came back to the glazing eye, and the sorrowing brother was consoled by a brief conversation before the man again sank and died. But the most important step in the process is the intermediate one,—the indefinite prolongation by cold of the effect of the drug. And here the verisimilitude of the story fails. There is no evidence that cold would produce this result. It would simply enfeeble still more the already diminished vital powers and hasten the end. If it were carried to the extent of congelation and entire suspension of function, the animal would not be recoverable. True, Dr. Richardson suggests that an animal gradually frozen entirely through may not be dead;

that the death which invariably follows may take place in the process of thawing. But this is mere theory, and, in the absence of proof, we naturally adhere to the belief that, in this as in other cases, when the heart stops the animal dies.

The problem of life,—its nature, its origin, its close forever baffles us. We feel it throbbing in our veins and moving in our thought, but we cannot define or formulate it. Bastian labors with patient genius to simplify the problem, and Tyndal remorselessly breaks down his conclusions. We ply it with experiment, we analyze its phenomena, we draw nearer to its solution, perhaps, yet still the question what is life, like the other question what is matter, has only its echo for an answer.

Two general conclusions sum up this discussion:

1. That in the higher animals, absolute suspension of all the vital functions never takes place except in death. In sleep, hibernation, catalepsy and narcotism, which are the nearest approach to suspended animation, vital action may always be detected.

2. That the question whether in any organism, vegetable or animal, life ever continues when its functions are absolutely suspended, is not settled. But some facts seem to indicate that there may be latent life without functional activity.

Melancholia; and its connection with Ancient and Modern Suicides.

BY F. A. STILLINGS, M. D.

Mr. President and Fellows:

In putting this paper before you, I do not claim that any new or startling points will be brought out, but by simply putting together a few facts, culled from a considerable number of sources, and presenting them to you in a condensed form, it is hoped that your interest may be awakened so that you will be inclined to look up the literature of the subject, and make more strenuous and intelligent efforts to help a class of patients, by no means inconsiderable in number, who at the present time receive little benefit from the profession at large, beyond the signing of a certificate for commitment to an asylum for the insane.

In this article I shall quote largely from Winslow, Greisinger, Bucknill and Tuke, Ray and Blandford.

"In our voyage through life, the passions are said to be the gales that swell the canvas of our mental bark; they obstruct or accelerate its course, and render the passage favorable or full of danger, in proportion as they blow steadily from a proper point, or are adverse or tempestuous.

Like the wind itself, the passions are engines of mighty power and of high importance. Without them we cannot proceed, and with them we may be shipwrecked and lost. Curbed in and regulated, they constitute the source of our most elevated happiness; but when not subdued they drive the vessel on the rocks and quicksands of life and ruin us."

> "How few beneath auspicious planets born
> With swelling sails make good the promised port
> With all their wishes freighted."

In this country at the present time the tremendous strain that is put upon every man that enters into business or the professions, by the sharp competition that is everywhere around him, speculations, with their inevitable losses, political affairs, with their disappointments, spiritual matters that excite anxiety in the minds of many, all tend strongly to put into our hands cases of melancholia; and I think we can safely say that the physical causes of disease, as compared with the mental, are insignificant.

As melancholia in some of its forms is one of the most common of mental diseases that comes under our notice, we will look at some of its symptoms, not all, because they are myriad; the results when not carefully watched; and finally, the treatment.

The following, which I quote, is, I think, a fair description of the symptoms of a typical case:

"The disposition of the patient begins to change without any assignable cause. He becomes dejected, peevish, suspicious, exhibiting more extreme sensibility and a disposition to connect everything with himself. Everything wearies him, and he is easily fatigued. At the commencement this state experiences many remissions, and the paroxysms assume the form of an irritable, restless, and distrustful disposition, or a mental apathy, which may go so far as to produce weariness of life, or anxiety which may proceed to despair and loss of self-control. An undefined, yet vivid feeling of illness torments and annoys the patient in an obscure sort of manner. All the parts of the sensory nervous system may be the seat of morbid sensations, often very painful (formication, heat, cold, crawling about of some foreign body—as if his head would burst,—as if he were empty, dead, pierced, torn in pieces, &c.) and the higher senses also often present an exaggerated sensibility, or great bluntness, and actual hallucinations."

Sometimes the melancholiac is constantly examining himself and hunting for symptoms, counts his pulse every hour or two, looks at his tongue every chance he gets, watches all his secretions, and dwells with persistency upon their color, smell, &c., and relates with great minuteness to his medical attendant all that he has noted since his last visit.

If the physician manifest any indifference to his tales he is very likely to be more depressed, and at once imagine that the doctor thinks his case a hopeless one, and so will not exert himself.

I remember one patient who spent many very unhappy hours because I would not get down and interview more closely what he would religiously save each time, hoping that he would at last prevail. His idea was that his intestines were rotting and slowly coming away from him.

This idea held sway for some time; then, after getting hold of a medical book somewhere, he told me there had been a mistake made in his case, he was afraid, and he wanted to tell me just what his trouble was. He said it was "Bright's disease of the kidneys." At my next visit he had "chronic rheumatism;" the next, "heart-disease," and so he ran through a list of fifteen or twenty diseases.

His depression was so great that, for several months before I saw him, he had not been out of the house. He recovered perfectly under treatment in a few months, and, so far as I know, has remained well.

Another patient, seen in consultation with Dr. Tuttle, of Littleton, had the trick, and it lasted her some two weeks, of keeping one hand tightly pressed over her mouth, occasionally removing it to say a word and instantly clapping it back again. It was a long while before she let out her delusion, which was this: She was afraid her intestines would rise up and come out of her mouth, and she should find herself in a terrible predicament by being wrong side out! She recovered without being sent to an asylum.

Again sexual illusions may torment a patient. I knew one lady who would be melancholy to the extreme, and at times suicidal, and at last gave her reasons and asked for protection. Her troubles were, as she said, almost every night a large number of exceedingly small men crept in through the key-hole and cracks about the door, and took all sorts of improper liberties with her person. She stopped up the key-hole with paper, and took every precaution she could think of, but had the same complaint to make every morning. She gradually grew worse and is now hopelessly insane.

Simple melancholia may exist with normal action as regards objective reasoning, but as soon as the brain is made to work subjectively the sick fancies come thick and fast, and the patient fails entirely to apply the same rules to himself that he does to others.

Had we the requisite skill and opportunity of examining the brains of these mild melancholiacs, many of them would undoubtedly be found in an anmæic condition. That this is the ordinary condition of patients of this class is, I think, proven by the treatment that is usually most successful, and of which I will speak further on.

As one of the results of melancholia is suicide, it cannot be without interest to consider some of the suicides of which we have records, and the reasons for them that have been assigned by different writers.

"The first case of suicide recorded in Scripture is that of Samson. After suffering many indignities from the hands of the Philistines, his anger was roused to the highest pitch, and, resting against the pillars that supported the building in which the lords of the Philistines and an infinite number of others were assembled, he offered up the following prayer: 'Oh Lord God, remember me I pray thee, and strengthen me, I pray thee, only this once, O God, that I may at once be avenged of the Philistines for my two eyes,' and taking hold of the pillars he said, 'Let me die with the Philistines;' and he bowed himself with all his might, and the house fell upon the lords and all that were therein; so that the dead which he slew at his death were more than they which he slew in his life." "In Samson's case there is nothing said in Scripture either to condemn or justify the act; but it appears evident, from the whole history of the last events of his life, that he was but an instrument in the hands of God for the accomplishment of his wise purposes. * * * Samson is to be considered as a martyr to his religion and his God."

Granting that the last is true, it does not follow that he was not a sufferer from melancholia. He must have lost faith in human nature and goodness, and his well-known domestic infelicities were not calculated to cheer his spirits or make him care to dwell longer in the land of Philistia.

Referring to the suicide of Saul, the Scripture says: "And the battle went sore against Saul, and the archers hit him, and he was sore wounded of the archers. Then said Saul to his armor-bearer, draw thy sword and thrust me through therewith, lest these uncircumcised come and thrust me through and abuse me. But his armor-bearer would not for he was sore afraid: therefore Saul took a sword and fell upon it."

Although the Jews considered it right for a man to commit suicide to keep from falling into the hands of enemies, it would seem that Saul must have been much harassed and depressed in spirit by his loss of the battle, and when the "last straw" in the shape of an arrow hit him in the back as he was running away, he broke down completely and begged to be killed.

"If I cannot acquire what I wish," says Cato, "I will kill myself; I will not live to grace Caesar's triumph, though I know Caesar to be the most generous and clement of conquerors; I cannot consent to receive Caesar's favors. My pride is wounded, my fears destroy all tranquillity; my body is sinking under adversity. I will not dedicate my services to my distressed country under the auspices of successful Caesar. I will plunge a sword into my bosom."

"This was not the judicious, placid Cato of former years, but the depressed Cato, committing a rash action, contrary to all his former great reasoning and virtuous conduct. It was, in fact, Cato's act of insanity; it was not dying to serve his country, but to effectually rob Caesar of his eminent services: it therefore appears more the effect of private pique and despondency than a demonstration of public virtue or courage. After he had stabbed himself, his wound was dressed, but so determined was he to sacrifice his life that he tore open the wound forcibly and pulled his bowels out, and thus effected his purpose."

"When the throne of Sardanapalus was endangered, he conceived a magnificent and truly luxurious mode of committing suicide, quite in character with the extravagance and dissoluteness of his former acts. He erected a funeral pile of great height in his palace, and adorned it with the most sumptuous and costly ornaments. In the middle of this building was a chamber of one hundred feet in length, built of wood, in which a number of golden

couches and tables were spread. On one of these he reclined with his wife, his numerous concubines occupying the rest. The building was encompassed round, at some distance, with large beams of wood, to prevent all egress from the place. Much combustible matter, and an immense pile of wood were also placed within, together with an infinite quantity of gold and silver, royal vestments, costly apparel, rich furniture, curious ornaments, and all the apparatus of luxury and magnificence. All being arranged, this splendid funeral pile was set on fire, and continued burning until the fifteenth day, during which time Sardanapalus revelled in all kinds of sensualities."

Afterwards a monument, consisting of a stone image with the thumb and forefinger joined, was erected to his memory, describing his deeds, and these words, "Eat, drink and be merry. As for the rest, it is not worth the snap of the finger."

The reason of the suicide of Zeno is said to be as follows: "As he was going out of his school one day, at the age of ninety-eight, he fell down, put a finger out of joint, went home and hanged himself."

Cleanthes, his successor, killed himself for as peculiar a reason. His physician having ordered total abstinence for forty-eight hours, to relieve some slight illness, he followed the directions implicitly, and, at the end of that time, said, "that as he had advanced so far on his journey towards death, he would not retreat," and so starved himself to death.

As we look at these ancient suicides, there almost insensibly comes over us the feeling that they were made of different stuff than we of to-day; and so they were. If we except Zeno and Cleanthes, whose ridiculous reasons were very like some of those given at the present day, we can imagine, under the then existing laws and customs, how they could easily bring themselves up to the point of committing the act. Seneca was a defender of suicide and says: "Does life please you? live on. Does it not? go from whence you came." Seneca, however, did not take his own advice when reduced to a state of great unhappiness.

In accounting for the readiness with which the ancients embraced the idea of suicide, we have only to take into consideration the "peculiar customs, habits and religion of the people. The Mas-

sàgetes considered those unhappy who died a natural death, and therefore ate their dearest friends when they grew old. The Libarenians broke their necks down a precipice. The Bactrians were thrown alive to the dogs."

As we come nearer to our own time, the suicides of heroism, if I may so call them, diminished, and, at the present time, the unanimous verdict of the public is that the person was "crazy or a fool."

For singular cases of suicide, the French are preëminently ahead of any other nation. They seem to go along in a happy, careless manner, and the next thing you know the man you would least suspect has committed suicide. One Frenchman invited another to dine with him; he accepted, but in a moment turned back and asked at what hour the dinner was to be; on being told, he begged to be excused, saying he had an "engagement" to shoot himself at that hour, and went home and did it.

The French are changing their mode of suicide to a certain extent. Formerly their favorite method was to suffocate themselves with the fumes of charcoal, but of late years the Seine seems to afford the easiest method, and many avail themselves of it.

Two bodies, a young man and woman, were found floating in the Seine tied together, with a paper, tightly wrapped in parchment, attached to them, containing the following:

"O, you, whoever you may be, compassionate souls who shall find these two bodies united, know that we loved each other with the most ardent affection, and that we have perished together, that we may be eternally united. Know, compassionate souls, that our last desire is, that you should place us, united as we are, in the same grave. Man should not separate those whom death has joined.

(*Signed.*) FLORINE,
GOYON."

"The case of a man is recorded in a French paper, who burnt with one of the strongest passions of which we ever heard an account. His mistress having proved unfaithful to him, he called up his servant, informed him that it was his intention to kill himself, and requested that, after his death, he would make a candle

of his fat, and carry it lighted to his mistress. He then wrote a letter, in which he told her that as he had long burnt for her, she might now see that his flames were real; for the candle by which she would read the note was composed of part of his miserable body. After this he committed suicide."

A blacksmith, wishing to commit suicide, loaded an old gun-barrel with bullets, and, putting the end in the forge, worked his bellows by means of a string attached to the handle, and held his head in front of it till the explosion took place, when his head was successfully blown off.

If you notice, you will find that all the suicides of Paris, particularly the female, are spoken of as marvelously beautiful; glowing descriptions are given of their hair, teeth, form, &c. So that the woman who commits suicide there gets an amount of puffing for personal beauty that would never have been discovered had she lived.

I remember, several years ago, one morning the Paris papers were full of an account of two lovers, who, fearing they were to be separated, had, in a small hotel, locked themselves into their room, taken prussic acid, and died in each others arms. The "girl," as she was spoken of, was described as "ravishingly beautiful, evidently belonging to the higher class, &c., &c.," while the man came in for his share of gush about his "manly form" and "classic head." My curiosity was aroused, and I went at once to the Morgue to see these poor unfortunates, who had thus cut themselves off in the bloom of youth. I found a man perhaps forty-five years old, who may have been a coal digger, at any rate an English laborer of some sort; and a woman about forty years old, as homely as any woman you might have met in walking a mile on the street. I afterwards found that they were man and wife, had come to France to obtain employment, and, failing to get it, had both become melancholy and depressed, and committed suicide.

At the Hotel des Invalides, a man hung himself to a cross-bar in one of the corridors. Within two weeks five others hung themselves to the same bar, and the authorities were obliged to close the passage to stop the epidemic.

The majority of Americans who become melancholy and commit suicide, do it by hanging. A few use the pistol or knife, and occasionally a woman drowns herself, but the most of them, like Mantalini, don't wish to become "a dem'd, damp, moist unpleasant body."

The case of the man in a neighboring state, a few weeks ago, who rigged a guillotine, and then laid his head under the axe and waited for the water to run out of a kettle through a small hole, to let the "catch" loose so the axe would fall, was as horribly cool as the blacksmith who waited for his gun-barrel to heat.

Though perhaps some of the cases cited above may not be classed as occurring among melancholiacs, yet, I think, at the present day we are able to establish the fact that nearly all suicides occur among those suffering from mental depression. Under these circumstances, it behooves us to watch well the melancholy patient, and see from day to day what his mental and moral condition is. In this class of patients the moral treatment is of quite as much importance as the medical, and the first thing we are to attempt is to get our patient *out of himself*, so to speak. Get him interested in something, no matter how slight, nor for how short a time. Impress upon him Burton's advice, "Be not solitary; be not idle." Dr. Johnson says, "A woman is happier than a man because she can hem a pocket handkerchief." Another, "Our faculties, like the vulture of Prometheus, devour our souls, if they have no action beyond ourselves." Make your patients laugh, reason with them. You can sometimes make more impression than you could on a sane man. Urge upon them the necessity of putting their morbid ideas aside. Get a promise from them that they will be lively and jolly for one hour during the day, and when they promise a thing of that sort they invariably succeed, and are the better for it. When a patient is inclined to talk much of his unhappiness, and he generally is, do not turn away from him, but say, as Malcolm did to Macbeth:

> "Give sorrow words; the grief that does not speak,
> Whispers the o'er wrought heart, and bids it break."

By studying your cases carefully, you can soon learn how to receive their complaints. One is to be treated jocularly, another

seriously and respectfully, and perhaps another needs to be scolded for his foolish fancies. I remember one patient who was very prolix as regarded his symptoms and feelings. Every day I would sit down and ask him to repeat, from beginning to end, his symptoms, &c. He bore up under the imposition about two weeks, when he got wrathy, and said, "he'd be d——d if he would tell me again." He began to recover from that day, and in a short time was well. It is sometimes well to give the patient a decided shock, rouse him to an intensity of feeling, either of mirth or anger. The story is told of a young man suffering from melancholia, who at last announced that he was dead, and laid himself out stiff on the bed, and refused to speak or move. His friends, to scare him, began immediate preparations for burial, and on the way to the grave had two of his friends meet them. One of whom said, "Well, I'm glad he is dead, he has saved himself from being hung." The corpse was highly indignant, but feeling that it was not proper for him to get out of his coffin, contented himself with calling out, "If I were alive, I'd teach you better than to speak so of the dead." The friend replied, "You were a miserable scoundrel and everybody is glad you are dead." This galvanized the dead man fully into life, and leaping from the coffin, he proceeded to give the fellow a sound whipping, went home, and in a few days was perfectly well.

If the patient has money enough, it is always desirable to make a change in his surroundings. Give him new things to look at, and think about, and, above all, it is imperative that the melancholy patient has an intelligent attendant to look after, and give, him no chance to commit suicide. Every case of melancholia ought to be looked upon as suicidal. Where the patient is able to be up and about, he will receive great benefit by rides in a carriage, more, I think, than by long walks. Such patients are usually not very strong, and gentle exercise does them far more good than laborious tasks. Where a patient cannot have proper watching, attention, and moral support, it is more desirable to send him to an asylum at once.

Less than a year ago, I foolishly attempted to treat a patient of this sort, with only the watching and attention which she would receive from her immediate family. She had made no attempt at

suicide, and I was lulled into a false security. She hung herself to one of the rafters in the attic, and when found was dead.

In taking a case of this sort, one must make up his mind to devote as much time to it as he would to four ordinary patients, and more if necessary; for if allowed to run on, seen only occasionally, the result is almost invariably bad. With regard to physical symptoms, an inactive condition of the bowels always requires our first attention.

Voltaire says if you intend to ask a favor of a prime minister, his secretary, or his secretary's mistress, "be careful to approach them after they have had a comfortable evacuation from the bowels." Next, nearly all suffer from sleeplessness, and this alone may tax our ingenuity much. Chloral and bromide of potassium, either alone or combined, will usually produce sleep, but they must be given in large doses, say from twenty to forty grains of chloral together with an equal quantity of bromide of potassium, on going to bed, and perhaps repeated once during the night. These drugs, however, ordinarily do not have a happy effect upon the patient next day; he is inclined to be a little stupid and more depressed, so that they can only be given occasionally. Perhaps they should only be given in violent cases of *acute* melancholia. In the more common forms, some of the preparations of opium are to be used, either the bromide of morphia, or the liquor morphiae bimeconatis, as these are less liable to produce nausea and increased constipation. They are to be given in full doses at night, and during the day it is many times well to give a small stimulating dose before each meal. Cases will frequently go on to recovery rapidly without any other special medication. It is never well to let the patient know what he is taking, but as he begins to improve, gradually diminish the dose till at the last he may not be taking more than the sixtieth of a grain in the twenty-four hours.

To relieve the constipation the following is a good mixture:

℞ Tinct. Rhei,
Fl. Ext. Sennae,
Tinct. Cinch. Comp., ā ā ℥j

Dose: teaspoonful three times a day.

As a nourishing medicine the following emulsion will perhaps give as good a result as any:

℞ "Glyconine,"	ʒiii
Ol. Morrhuæ,	℥iv
Acid. Phosph. Dil.,	℥j
Vini Xerici,	℥ss
Ol. Gaulth,	Mvi
Aq. Amygd. Amarae, q. s. ad	℥viij

Dose: dessert spoonful three times a day after meals.

This may be persevered in for a long time, but perhaps at last be changed for a mixture containing strychnia, phosphorus and bark. It is, of course, impossible for me to name all the remedies that one may be obliged to use in any single case. Every case has its peculiarities and must be treated accordingly. And now we come to the question of food, and on this depends a large share of our success in treatment.

The tongue is usually foul and dirty, the breath has a peculiar fetid smell, which is too often spoken of as a symptom of "gastric irritation," and the patient fed on subnitrate of bismuth, and a teaspoonful of milk at a time, drowned in lime-water. This condition of the breath and tongue is largely due to the fact that the patient is slowly but surely starving, and to point out the means to relieve it, I cannot do better than to give you the following, which I quote:

"Before getting out of bed in the morning, rum and milk, or egg and sherry, breakfast of meat, eggs, coffee or cocoa; beef-tea, with a glass of port, at eleven o'clock; and a good dinner at two, with sherry; at four, some more beef-tea, or an equivalent; at seven, dinner or supper with stout or port wine; and at bed-time, ale with the morphia."

Patients and friends are often horrified at the idea of giving one such a diet as this who has been living on almost nothing; but they can take it, and will feel the better for it. The constipation will frequently be relieved at once by the stimulus of so much extra food.

Melancholic patients usually feel better towards evening, but are very gloomy in the early morning, owing to abstinence from

›d while asleep; hence the importance of putting something o their stomachs as soon as they are awake.

One word more, to sum up the treatment, and I have done. ıtch these patients all the time, make them sleep as much as ssible, and, above all, force them to eat; by these means many l be saved and become useful members of society again.

LIGATION OF THE COMMON CAROTID. EXSECTION OF THE INFERIOR DENTAL NERVE.

BY LYMAN B. HOW, M. D., PROFESSOR OF ANATOMY AT DARTMOUTH COLLEGE.

The two surgical operations I am to briefly report are of so rare a kind, and one of them so unique, that a sense of duty to those laborious and too often unappreciated members of the profession, known as the compilers of statistics, impels me to put them on record.

Charles P., aged 33, a robust man, on the evening of April 26, 1880, was engaged in removing sand from a newly erected baker's oven (he being entirely inside it) when the oven, covered with a bank of sand twenty inches thick, caved in and he was buried alive. In about ten minutes he was extracted, and I found him stretched on the ground, wildly delirious. Chloroform was at once administered to keep him quiet and allow an examination. He was found to have received a fracture of his left thigh, near the junction of the upper and middle thirds, attended with a good deal of laceration of the muscles, and there was a large and rapidly increasing tumor on his head, involving the right eyelids, forehead and temple, evidently due to subcutaneous hemorrhage, the source of which was incomprehensible till some one arrived who could give me the history of the injured man, which is as follows: At the age of eighteen months a small tumor appeared under the upper lid. At the age of ten it was as large as a cranberry bean. By the time he was eighteen the pressure had destroyed the sight. When he was twenty-one some sort of an operation was attempted, but abandoned on account of hemorrhage. After this it extended all around the orbit, involving both lids, and soon the forehead and temple. It

was growing slowly, but painlessly, up to the time of the accident, extending four inches above the orbit and from near the median line of the forehead to the front of the ear, measuring full five inches in its transverse diameter,—all the arteries around the orbit and those of the temporal region being involved in it, and it projected considerably above the surrounding parts,—the eyelids, especially, being very prominent. The disfigurement was great, and he reminded me of the Cyclops Polyphemus, after his eye had been put out by Ulysses, a "Monstrum horrendum . . . . . cui lumen ademptum."

This cirsoid aneurism of the orbit and face had got ruptured by the falling bricks, and the blood was being rapidly diffused under the skin. Ice and compression were tried, but in vain, although for a few hours they seemed to be successful. It was hoped that the accumulating pressure, aided by cold, might arrest the bleeding, but it soon increased and the blood made its way all over the head, beneath the scalp, and was extending down the neck. Then the overstretched skin began to turn very dark. The upper eyelid was enormously distended, and its pulsations could be seen at a distance of ten feet. The ear was almost black, and it was evident that the integument would soon give way. I invited Drs. C. F. Bonney, William A. Webster, O. D. Abbott, Leonard French, L. Melville French, and Marcel Richard to meet in consultation. They all agreed that nothing but ligature of the common carotid would be likely to avail anything. Accordingly, ether having been administered, the operation was at once performed,—the gentlemen above mentioned kindly assisting.

The usual incision was made, and the sheath opened on the inner side only enough to bring the artery distinctly into view at the point where the vessel was to be tied, the aneurism needle was passed behind the artery from without inward and the ligature was tied just above the omo-hyoid muscle, the carotid having been first carefully examined to ascertain that it did not bifurcate at a lower point than usual, and that it had no anomalous branches. The sheath was opened on the inner side, to obviate the risk of wounding the jugular vein and cutting across the descendens noni nerve. The ligature was of ordinary saddler's silk, doubled and waxed.

The only antipseptic precautions were to have clean instruments and fingers; to use new, thoroughly cleansed sponges; to wash out the wound clean with a weak solution of carbolic acid; to dip the ligature, also, in it, and to apply to the incision after the sutures were put in, several layers of carbolized gauze. The dressings were not disturbed for four days.

On the seventh day my entrance into the patient's room awoke him from a dreamy sleep, whereupon he clutched his neck and tore open the wound. Instantly the blood ran so freely across his neck that I thought he must have pulled open his carotid. I applied pressure, and this proving effectual, it was evident that the blood came from the superficial descending branch of the superior thyroid, which artery alone had required a ligature during the operation. This artery had apparently enlarged after the operation, and when he pulled the ligature off the blood flowed freely from it and from the congested capillaries of the wound. This delayed the healing of the incision, and there was after this a quite profuse suppuration. The ligature came away on the twenty-seventh day spontaneously, having remained about ten days longer than in the average of reported cases. It might, perhaps, have been removed sooner, but the pulsation of the arteries at the root of the neck were so strong that I was glad to have it remain as long as it did.

As soon as the carotid was tied a free incision was made through the integument in the temporal region, and enough blood and clots removed to relieve the distension, care being taken not to disturb the clots near the orbit, lest there should be secondary hemorrhage through the large orbital vessels when the collateral circulation was established.

A drainage tube was introduced as soon as the discharge from the incision in the temporal region began to be offensive, and carbolized water was frequently injected for a month, when the discharge ceased. The very dark color of the external ear and upper lid, and indeed of the whole integument of the right side of the head, deepened to a black after the operation, and in another day a very suggestive greenish hue was added to the blackness of the ear, which made us apprehensive that he would loose it. It was sponged frequently with warm carbolized water, and the whole region kept well covered with cotton. With the establishment of

the collateral circulation the natural color was gradually restored, and there was no sloughing of the integument. The head and shoulders were kept in an elevated position to allow the venous blood to escape readily from the head,—the "vis a tergo" being weak,—a position the patient insisted on keeping for five weeks afterward, to prevent headache. He had no so-called "cerebral symptoms."

As soon as the carotid was tied the pulsation of the upper lid was arrested, but in an hour it began anew and in another hour was quite distinct. An artery of considerable size was found running from the left angular artery across to the right and to the orbit. This was compressed digitally by my students for several hours. The pulsation of the lids gradually diminished and is not now discernible.

There now (September) remains in front of the right ear a tumor about a third as large as an egg, composed of loose integument containing, apparently, a mass of impervious blood vessels, and the loose skin around the orbit has under it a thin layer of the same tissue. But this has been slowly and steadily diminishing, and the originator of this novel but highly successful method of getting rid of a large cirsoid aneurism has the satisfaction of finding both his personal appearance and prospect for a long life both greatly increased.

According to Dr. John Wyeth, in his prize essay on the Surgical Anatomy and History of the Carotid Arteries, published in the proceedings of the American Medical Association for 1878, the common carotid has been tied fifty-two times for the cure of non-malignant tumors of the orbit, with a result of forty-six recoveries and six deaths,—a mortality of eleven and one half per cent. Of the forty-six recoveries, twenty-eight are returned as cured, five as improved, and six as not improved.

Ligation of the common carotid has been performed by the following surgeons of New Hampshire: Muzzey, ligation of both carotids; successful. Twitchell, in 1807, ligation of right carotid for gun-shot wound of neck and face; successful. T. R. Crosby, in 1864, for gun-shot wound through left temporal bone; successful, although on account of secondary hemorrhage he tied the artery again.

As the mortality after this operation, for all causes, is, according to Dr. Wyeth, forty-one per cent, the record of our New Hampshire surgeons, though brief, is a fortunate one.

II.

The next report is, in this State, of a rarer operation,—excision of the inferior dental nerve for intractable neuralgia.

J. H., a healthy farmer, sixty years of age, began to suffer from neuralgic pain in the right half of his lower jaw in August, 1868. It was not severe at first, but by the following March he was unable to work. September 18th, he came to Manchester, and although he had been already well saturated with drugs, more of them were tried for nearly one month, during which time he grew steadily worse. Dr. C. F. Bonney also saw him, and when the anti-neuralgic remedies of modern therapeutics had proved unavailing, concurred with me in recommending surgical treatment.

His symptoms corresponded exactly to those of Trousseau's Epileptiform Neuralgia. After a short interval of rest, all at once, like electric shocks, flashes of intense pain would shoot through his jaw, his features would be hideously distorted by epileptiform contractions of the facial muscles, tears would stream from his eyes, and his agonizing cries would pierce the hardest heart. These lightning-like stabs of pain would succeed each other rapidly for a short time, and then would come an interval of heavenly repose which would sometimes last several hours if he was well drugged with morphia and atropia. But during this bivouac the fiends of pain were all the time industriously loading up their artillery, and ere long a volley all along the line would be the only notice that the truce was ended, the poor victim seizing his jaw, falling on his knees and shrieking for the mercy that was only perhaps after an hour reluctantly yielded. The pain extended the whole length of the inferior dental nerve and streamed out through the mental foramen to the integument of the chin. There were no sensitive places to be found on the jaw and no reflex cause operating from the system at large could be discovered. It was possible, perhaps probable, that the cause was centric, but we recommended an operation with the belief that even a brief respite from such pain was worth all the risk.

He joyfully took the chance, and Oct. 10, 1879, assisted by Drs. C. F. Bonney, J. W. Mooar and L. Melville French, I operated as follows: An incision was made behind the ramus and below the body of the jaw so that the resulting cicatrix might be as far as possible concealed. The line of incision behind the ramus extended through the integument only down to the parotid gland, which was then turned back a little and a flap, including the masseter muscle, was dissected up. The periosteum was turned to either side from a central incision and a trephine applied to the ramus, with its point opposite the entrance to the inferior dental canal. The facial artery and vein being next drawn forward the trephine was next applied to the body of the jaw. The external table of the jaw, between the two openings, was removed with bone chisels, so that the nerve and its canal could be examined. Nothing abnormal could be detected, but two inches of it were removed and the proximal end was stretched. The accompanying artery having been wounded by a slipping of the point of the trephine, it was tied at the point where it entered the canal.

The wound was sponged out clean with carbolized water, new sponges only being used, as is my custom, the periosteum and soft parts were replaced with extreme care, and the whole covered with carbolized gauze, which was not disturbed for five days. There was not, during the whole aftertreatment, a half an ounce of discharge of any sort from the wound. The neuralgic pain ceased at once, no opiates were required after the second day, and a rapid convalescence ensued. Mr. H. soon returned to his farm and resumed work, and now, although nine months have elapsed, he has not had a twinge of pain.

Excisions of the first and second divisions of the fifth pair of nerves, even when Meckel's ganglion has been removed, have not fulfilled the confident expectations that were formed a few years ago,—the pain having returned a few months afterward, in several of them. Out of thirteen cases tabulated by Prof. P. S. Conner, the pain is known to have recurred in seven. In one of the seven in one month, in one within two months, in one in three months, in one in eight months, in another in sixteen months, and in one at a time unknown. Among the six other cases, we learn that one was exempt from pain for several years, one for several months,

one for fourteen months, one for two months, one for twenty-eight days, and in one the result is given as dubious.

Operations on the inferior dental nerve were formerly unsuccessful, because they were sometimes merely sections at the mental foramen, or excisions of short portions of the nerve, not enough of the nerve having been removed to prevent reunion of the several ends. But later operations, in which more of the nerve has been exsected, have been more encouraging.

The perfect relief that has been procured in this case, even should it last no longer than the nine months past, has, I believe, fully justified the operation.

THE PROVINCE OF MEDICINE.

BY M. C. DIX, M. D.

Mr. President and Fellows:

One year ago this present month, upon the announcement of the report of the Executive Committee, I congratulated myself that, as my name appeared last upon the list of substitutes, I could come before this honorable body at its next annual session and *listen* to the words of wisdom, which I was sure to hear, with that feeling of unspeakable comfort and satisfaction with one's self which is felt by the young physician when the "old doctor" takes the responsibility of resorting to "heroic measures" in an emergency. Vain hope—"for they all with one consent began to make excuse." What these excuses were it matters not—whether the proving of oxen, or the taking of a wife—they were valid. Our worthy Secretary informed me of the state of affairs at the eleventh hour, very courteously however, and not wishing to be remiss in any duty that limited talent could perform, I consented to present a paper for your consideration. This, then, is my vindication for presuming to trespass upon your valuable time, when another—more competent to give instruction—should stand in my place.

In discussing the subject before us we observe that in its ultimate applications it depends altogether upon the knowledge, culture and refinement of those who have the immediate charge of the sick. There must be *knowledge* of the present necessities, to give general instructions; *culture*, which is another name for mental discipline, adequate to grasp the case in all its minuteness; and *refinement*, that you may stand before your patient as a specimen of true manhood.

The physician who truly interprets the "Province of Medicine," must be endowed by nature with a desire for truth, or how else can he withstand the chicanery of the world, or the petty jealousies of the profession, both of which are antagonistic to that spirit of charity which should pervade the hearts of all men, and, therefore, detrimental to the advancement of medical science itself.

If this innate principle has been given him (and I am inclined to the belief that all *physicians* are so endowed, to a greater or lesser degree,) he will go to the fountain head—nature—to receive his first lessons in that science which comprehends everything pertaining to the knowledge and cure of disease. Having taken this step, anatomy and physiology unfold to his mind the wonderfulness of the human body, and when aided by chemistry and the microscope he better understands the significance of the inspired words of the Psalmist, "I am fearfully and wonderfully made."

In a few short years, his curriculum finished, his examination satisfactory (?), he is presented with the degree of "Doctor of Medicine" and is thereby entitled to all the rights and privileges pertaining thereto.

Now, as he stands face to face with his life's work, he asks, if never before, the pertinent question, what is my mission—what *is* the Province of Medicine? "It is, undoubtedly, to place the system in such condition that it can best resist disease, remove such material as may endanger the integrity of its structure, and repair such lesions of structure as may be produced." The first of these definitions belongs, strictly speaking, to the domain of "Medicine," while the second and third belong to "Surgery," and from both departments illustrative cases will be cited to establish these definitions as given above.

No intelligent physician, at the present time, claims to cure disease by the administration of drugs, he gives *nature*, with her wonderful resources, this preëminent position, while drugs of whatever name or action he classes as an assistant.

We may, at first thought, regard this view an erroneous one, but with the light of pathological science no one can deny it, although he is obliged to admit his own inferiority. To render this assertion more intelligible allow me to call your attention to some of the facts connected with the pathology and treatment of pulmo-

nary tuberculosis. This disease, constituting a lesion of composition is generally regarded by pathologists as proceeding from some prior morbid condition of the system—as "being a local expression of a special constitutional affection." This I think is the correct view, and the only one consistent with clinical observation whose researches, by the way, give us all the practical knowledge which we possess upon the subject.

Whatever may be this prior constitutional condition it suffices to produce tuberculous products, and this brings us to the treatment. All that we can reasonably hope to perform by medication is the arrest of the disease. The science of medicine has never yet produced a remedy which is specifically curative. Drugs, in themselves, are curative only as they are employed for the relief of certain symptoms which arise, or may arise in the course of the disease, notwithstanding the contrary opinion of all quacks, from the itinerant vender of a nauseous compound to the East Indian clergyman with his vaunted specific.

Medicines then being powerless to effect a cure, can we step from the beaten path and yet remain in our legitimate province? Most certainly we can. Preventative medicine lends us its aid, and by its teachings we instruct those patients with a tuberculous diathesis, that in a wholesome regard for nature's laws lies their only chance from falling victims to the "fell-destroyer." More yet, after the ulcerative process has commenced, our main reliance must be upon hygienic measures. Sunlight, pure water, an equable climate, and pure air, these elements of nature form the sheet anchor by aid of which our patient may hope to outride the fearful storm of disease which has approached him so insidiously.

To illustrate this point still further I will cite you to a class of cases known as "fevers," the prevention of which is as much in our province, as physicians, as it is to treat them specifically after the system has become saturated with the peculiar poison which produces them. If, when called to a patient with the characteristic symptoms of typhoid fever, we were to inquire into all his habits and surroundings, there is but little doubt that we should find him guilty of trespassing upon hygienic law, if not upon common decency itself. Having found such conditions, and who of us have not, especially in the crowded tenement house, we can per-

form an untold amount of good by removing the *cause* of such disease. See to it that the cellars contain no decaying vegetation, and that there is ample drainage to the same; that the out-buildings are kept scrupulously neat and clean, and sufficiently removed to prevent leaching into wells or reservoirs, the water of which is used for drinking or culinary purposes; and above all things, prevent overcrowding, and secure free ventillation.

After this thorough renovation, it sometimes happens that the physician first called is dismissed because he has taken upon himself the dignity of health-officer, and at the same time has not failed to express, in words, his utter abhorrence of such filthiness. This need not be the case, for the head of the family, or the person occupying that position for the time being, could be approached with all due courtesy, with that spirit of kindliness and refinement which should ever characterize the physician when dealing with his patrons upon so delicate a subject as cleanliness. Proceeding in this manner he could be made to feel the importance of a clean and healthful habitation as one of the greatest blessings, inasmuch as it is a promoter of health, without wounding his feelings in any manner whatever.

On returning to our patient, as he still wishes to retain our services, we learn that we have already succeeded in rendering his condition more comfortable; for, with the pure air circulating through the apartment which he occupies, and the frequent sponging of the body with cold or tepid water, we find the axillary temperature reduced one or two degrees; the nervous system responding kindly to the magic influences of nature's treatment, as is observed in the decreased restlessness; the heart is more quiet in its action; the low muttering delirium which is characteristic of all affections of a typhoidal type, has nearly ceased, and the patient is fast passing into a condition of comparative quiet. This quiet and assuring phase of the disease has been reached not by large doses of quinia, chloral hydrate, or digitalis, but by the simplest laws for the prevention of disease, namely: the employment of perfect ventillation and pure water.

There is reason to believe that in all so-called self-limited disease, hygienic measures form the most important part of our treatment. In proof of this I have only to cite you to any of the re-

ports furnished the profession from our fever hospitals, but time forbids, and it is not essential to our purpose; simply bear in mind that to withhold from our fellow men our knowledge of nature, as a curative power in disease, or as a preventative of the same, is to belittle our province as physicians, and bring sickness, misery, and financial ruin upon many an otherwise prosperous family.

The department of surgery is even a more fertile source for illustrations of the conservative and curative power of nature than that of medicine. In no department of medical science is there so much need of this conservatism, or its power so plainly seen, and yet from time immemorial the profession has, in an indirect manner, at least, ignored the fact, that in nature we have the most powerful ally for the cure of surgical diseases.

"Medicine is but the handmaid of nature," says an eminent author, and to this might be added, that those who wish to become successful in the art of surgery must be diligent and observant students of nature's methods of preserving the integrity of the system, and thereby expelling, or at least lessening the destructive tendencies of disease. This power was recognized in the earliest stages of medicine even to a greater extent than at any subsequent period, until modern times, as we learn from perusing the ancient writings, wherein it is stated that "certain evacuations, as bleeding, vomiting, sweating and purging, form so many means by which diseases are cured; and by attempting to imitate these processes of nature, the art of medicine was established. Congestion, which is usually the first stage of inflammation, denotes the existence of an abnormal amount of blood in a part, and for its treatment we must remove this undue accumulation by seeking to equalize the circulation. Nature, always vigilant to protect her own, frequently relieves this condition by giving passage externally to some of the constituents of the blood, or of the blood itself. Again, in that condition of the vascular system known as "Plethora," in which the red globules are relatively increased when compared with the whole mass, giving rise to a greater density of the circulating fluid, causing the blood to become thick and heavy, and thus mechanically impeding the circulation. The symptoms in these cases are strongly marked: "There is more color in the lips and face; the mucous membranes are

reddened; the heart's impulse is increased, giving a full and strong radial pulse; and the physical and mental powers are more active. Such symptoms as these are thought to predispose to acute inflammations, or cerebral apoplexy. For the relief of such conditions, nature, as in the first case cited, attempts to give relief, and thus preserve life by spontaneous bleeding at the nose, mouth, or other of the natural outlets.

We see this same conservative action in the treatment of fractures and dislocations. Observe how nature immediately goes to work to repair the mischief by peremptorily demanding *rest* for the injured part. This demand she enforces by attaching the penalty of *pain* to every case of non-compliance, an admonition, by the way, which is never slightingly regarded by the patient. Having secured this rest, or freedom from pain, which many times takes place unaided by the art of man, she throws out upon the exterior of the bone, including the fracture, a splint for the purpose of giving rest and support, thereby providing the only way in which repair can be effected. After this preliminary step, the "provisional callus" having performed its office, the absorbents are set to work to clear away the debris—which they do in so thorough a manner that often the fractured bone resumes its wonted smoothness. We observe the same jealous guarding of its structures in a dislocation. The luxated head of the humerus or femur is immediately surrounded, if in a state of rest, with an investing material which, ultimately, is essentially the same, and performs the same office, in this new position of the bone, as the ruptured capsular ligament in its natural position.

Growth and repair will ever take place in nature so long as vitality exists, if left without interference; and it is our province to be so thoroughly prepared for our work that we may never be a stumbling block to her progress. I do not wish to be understood that nature alone is sufficient to cure disease in every case, but I have simply given these illustrations, imperfectly drawn as they are, to show the *importance* of her work in the province of medicine as a preventative to disease, and some of her methods which we must employ after disease has become established.

I cannot close this paper in language more expressive than by

quoting from one of the editors of the "Half-Yearly Compendium":

"These three foes to nature—weakness, sickness, death—the province of medicine takes upon itself to encounter. It teaches the means of exchanging debility for strength, of avoiding, caring for, and curing diseases, and of postponing to the utmost day the unavoidable termination of our earthly career. These are, indeed, lofty and beneficent aims. But it does not stop even here. Looking to the future as well as the present, it seeks to erase from the experience of mankind all preventable diseases; to protect the generations yet unborn from those ills which we, their progenitors, must endure; to impart a physical vigor and a mental constitution which will elevate the race above the liability to disease, and rescue it from the temptations to disobey the laws of life; and thus, joining hands with the mighty powers of religion and morality, to render man better and purer, as well as stronger and longer-lived."

DISTRICT SOCIETIES.

Reports of District Societies.

REPORT OF THE CENTRE DISTRICT MEDICAL SOCIETY.

BY DR. GEORGE COOK, SECRETARY.

CONCORD, JUNE 10, 1880.

To the Officers and Members of the New Hampshire Medical Society:

I have the honor to submit my fourth annual report.

The past year was one of continued prosperity with this Society. Eight new members have been received. Our meetings have been well attended, and of more than usual interest.

Three deaths have occurred during the year:—Drs. A. R. Dearborn, B. E. Harriman, of Concord, and Dr. D. E. Wells, of Hill, members much respected and honored. They being members of the State Society, appropriate attention will be paid their memory at the annual meeting.

The following papers have been read during the year:

JULY 8, 1879.

By Dr. B. E. Harriman, of Concord. "The Influence of Southern Climate upon Invalids from the North."

OCTOBER 14, 1879.

By Dr. H. A. Weymouth, of Andover. "One of the Best Ways to Suppress Quackery."

Dr. W. D. Chase, of Peterboro, read a report of a case of Tumor of Abdominal Aorta, and showed specimen.

By Dr. L. W. Peabody, of Henniker. "Puerperal Convulsions."

JANUARY 13, 1880.

President Dr. J. R. Cogswell, of Warner, delivered the annual address, upon the "Duties of the Physician."

Dr. A. H. Crosby, of Concord, reported a new dressing for Fractured Thigh. Also, successful operation for Strangulated Hernia.

Dr. H. DE W. Carvelle, of Manchester, reported a case of Twin Pregnancy, abortive at seven months, one fœtus being anencephalus and presented specimens.

APRIL 13, 1880.

By Dr. Geo. D. Towne, of Manchester. "The Trials of a Young Physician."

Dr. D. P. Goodhue, of Springfield. "Some Cases Occurring in County Practice."

Dr. J. C. Wheet, of Groton, address upon "Hope."

Dr. M. W. Russell, of Concord. "New Remedies."

The officers for the ensuing year were elected as follows:

President—Dr. J. R. Kimball, of Suncook.

Vice-President—Dr. H. A. Weymouth, of Andover.

Secretary—Dr. George Cook, of Concord.

Treasurer—Dr. M. W. Russell, of Concord,

REPORT OF THE MANCHESTER MEDICAL SOCIETY.

BY THE SECRETARY, H. DE W. CARVELLE, M. D.

To the Officers and Fellows of the New Hampshire Medical Society:

The following is a report of the proceedings of the Manchester Medical Society, from June, 1879 to October, 1879, when the meetings were dicontinued on account of failing interest and non-attendance.

JUNE 25, 1879.

The President, Dr. L. M. French, in the chair.

Dr. R. J. P. Goodwin read a paper on "Malarial Poisoning." Followed by an interesting discussion.

Dr. J. L. Robinson was elected a member of the society.

JULY 30, 1879.

Drs. H. T. Boutwell and A. L. Emerson, were elected members of the society.

AUGUST 27, 1879.

Dr. H. DE W. Carvelle presented a specimen of Lympho-Sarcoma, consisting of eighteen glands, varying in size from a pea to a hen's egg, which were removed from the axilla of a lady of forty-five years.

Discussions of cases followed.

The following officers were then elected for the ensuing six months:

President—J. F. Richards, M. D.

Vice-President—Geo. D. Towne, M. D.

Secretary and Treasurer—H. DE W. Carvelle, M. D.

Censors—D. S. Adams, M. D., C. F. Bonney, M. D., L. French, M. D.

Councillors—J. L. Robinson, M. D., L. M. French, M. D.

SEPTEMBER 24, 1879.

The President, Dr. J. F. Richards, read a very able essay on "A Study of Force and Cause."

Dr. L. Pattee was elected a member of the society.

OCTOBER 29, 1879.

Dr. L. Pattee read a very interesting paper on "Cryptogamic Botany," which was followed by a discussion.

Dr. M. S. Danforth presented an obscure case of disease of the nervous system.

Meetings were called by the Secretary for the four months following, the last meeting being called for the election of officers, February, 1880, but none of the members responded.

REPORT OF THE STRAFFORD DISTRICT MEDICAL SOCIETY.

BY THE SECRETARY, C. A. FAIRBANKS, M. D.

The Strafford District Medical Society held its seventy-second annual meeting at the American House, Dover, December 17, 1879.

There were twenty-five members present. Dover, Portsmouth, Rochester, Somersworth, Farmington, Kittery, and Lebanon being represented.

The President, Dr. John S. Parker, delivered an address on "Medical Ethics." He alluded to the duties the members of the profession owe to each other; said that harmony was conducive to our highest prosperity, and the honor and usefulness of the profession; that quackery, both within and without the profession, had done much to disparage medical science. He spoke of the jealousies existing between brother practitioners, the attempts of some to obtain pecuniary rewards and increase of practice, irrespective of the rights of their associates or the dignity of the profession. Discords among practitioners have done more to injure the profession than "isms" or "pathies." In conclusion, he counseled fairness in consultations.

Dr. Charles A. Fairbanks reported a rare case of Abdominal Aneurism, giving the history, differential diagnosis, and autopsy. The patient was under the writer's care from the last of August, 1878, to June 2, 1879. The tumor was located to the left of the spinal column, at the junction of the last fixed rib. When first seen it was of small size, but before death had developed into enormous proportions, causing erosion of the ribs and three of the vertebrae.

The autopsy revealed a large sac, containing more than three quarts of blood, and displacing the viscera. It had its origin on the posterior surface of the aorta, and was connected with it by

an opening two inches in length. The anterior surface of the aorta was in every way normal.

Plaster casts were exhibited showing the growth of the tumor, and, also, the eroded vertebrae.

The patient had had rheumatism, and probably syphilis.

Dr. E. S. Berry read a paper on "Croupous Pneumonia." He thought it must be considered an acute constitutional disease, that is, an essential fever, and not simply an inflammation, for the following reasons:

First. In relation to causation. It cannot be traced to exposure to cold, or atmospheric changes, as bronchitis and other inflammatory diseases can. It does not coincide with them in geographical distribution or season of the year, and cannot be produced by mechanical injury to the lungs.

Second. It is usually preceded by prodromic symptoms.

Third. The peculiar character of the exudation found in the air cells in pneumonia, differing from the products of all other forms of inflammation, shows that behind this peculiar local process there must exist a specific element, which stands in a causative relation to the peculiar local lesion, and that element must be constitutional and represent the disease.

Fourth. Its resemblance to other essential fevers in the definite course which it pursues when uncomplicated.

Fifth. The modern supporting and stimulating treatment of pneumonia (without regard to the local lesion) is illogical, if it is an inflammation, and can only be borne out by regarding it as an essential fever.

Dr. S. C. Whittier read a paper on typhoid fever. He confined his remarks to the ætiology and treatment of the disease.

Dr. Paul A. Stackpole read an article on diphtheria. He thought if the disease was brought early under treatment it could be controlled. He used Ferri Sulphatis ʒ i to a tumblerful of water, as a gargle. Internally, Ferri Chloridi. Tinct. and Potassii Chloratis, gr. xx, every half hour, for an adult. Give inhalations of warm water medicated with stramonium; nourishing diet; stomach and bowels should be attended to.

Dr. Levi G. Hill reported rare and interesting cases in surgery, and midwifery.

Drs. James H. Wheeler, D. T. Parker, and Paul A. Stackpole, reported cases, and they were discussed by various members of the society.

Dr. J. S. Parker spoke of the great advantage he had derived from the use of small doses of Chloral Hydrate (grs. iii), in vomiting.

Dr. Levi G. Hill, for the committee on nominations, reported the names of the following gentlemen as the officers for the ensuing year:

President—Dr. John S. Parker, of Lebanon, Me.

Secretary—Dr. Chas. A. Fairbanks, of Dover.

Treasurer—Dr. Chas. A. Tufts, of Dover.

Orators—Dr. James Pitts, of Dover; Dr. E. Q. Adams, of Kittery Point, Me.

Auditor—Dr. John R. Ham, of Dover.

Topics were assigned for the next Annual Meeting, as follows:

Pneumonia: Is it an Inflammation?—Dr. C. E. Swasey, of Somersworth.

Nervous System—Dr. D. T. P. Chamberlain, of Dover.

Puerperal Convulsions—Dr. John W. Parsons, of Portsmouth.

The Specific Element in Medicine—Dr. M. C. Lathrop, of Dover.

Diphtheria—Dr. J. H. Wheeler, of Dover.

An excellent dinner was served at the American House.

The meeting adjourned at 6 o'clock, after a long, interesting, and very profitable session.

ROCKINGHAM DISTRICT MEDICAL SOCIETY.

BY J. H. DEARBORN, M. D., SECRETARY.

To the Officers and Fellows of the New Hampshire Medical Society:

I herewith submit the second annual report of the Rockingham District Medical Society. This society, organized under a charter

from the New Hampshire Medical Society, on September 4, 1878, has not, I am sorry to say, been in a very flourishing condition. The officers are as follows:

President—L. J. Young, Candia.

Vice-President—J. F. Brown, Chester.

Secretary and Treasurer—J. H. Dearborn, Kingston.

Censors—L. J. Gibbs, R. A. Crittendon, C. S. Downs.

The meetings are held quarterly, notices have been given regularly, but the attendance has been very small. All reports of cases have been verbal. There has been no accession to our number during the past year. The present number is but ten. That degree of professional courtesy and good feeling that is desirable does not pervade this society, and with which it might be more useful.

NECROLOGY.

OBITUARY NOTICE

OF

NATHANIEL TOLLES, M. D.

BY J. L. SWETT, M. D., OF NEWPORT.

Dr. Nathaniel Tolles was born in Weathersfield, Vermont, September 17, 1805, and was the fourth and youngest son of John Tolles, who moved to Claremont with his family, in 1819, where he engaged in agricultural pursuits. The son soon became a pupil in the seminary at the west part of the town, then a flourishing school for young men and boys, under the supervision of the distinguished Daniel Barbor, D. D. Here he was noted for his uniformly correct deportment and strict obedience to regulations, as well as for his punctual attendance and thorough preparation for his recitations. He continued his studies until qualified to enter upon college life, when his general health becoming impaired, he turned his attention to pursuits less exhausting and better adapted to invigorate a naturally delicate physical system, and qualify for the duties of active life. His time, for several subsequent years, was variously occupied. The winters were spent in teaching in some of the leading district schools, and during the summer months he traveled some and labored more or less on the farm; but, however employed, it was his purpose and endeavor to improve himself in his classical studies and other departments of useful knowledge.

In the spring of 1827, when 22 years of age, he commenced the study of medicine, under the direction of Dr. James Hall, of Windsor, Vt., with whom he continued nearly two years, and the

remainder of his pupilage was with Dr. Charles G. Adams, of Keene. He attended one course of lectures at Bowdoin Medical College, Me., and afterwards at Dartmouth, where he received the degree of M. D., at the close of the session, in December, 1830.

He immediately sought and obtained the position of resident physician in the South Boston Alms House, which he held for the period of six months, thereby acquiring a familiarity with disease and the means of recognizing it, which proved of great practical advantage during his whole after life. Under the instruction of the distinguished Dr. Fisher, he studied affections of the thorax, by the aid of auscultation and the use of the stethoscope.

With these qualifications, Dr. Tolles commenced the practice of his profession in Reading, Vt., September, 1831, where he was in full business until the spring of 1841, nearly ten years. Here he was remote from any physician capable of rendering him much aid in an emergency, and consequently was forced to self-reliance, and to seeking counsel of the learned and wise authors whose publications abounded in his library. These ten years gave him a valuable experience, and aided him in preparing for the more important field he was destined to occupy as a physician and surgeon.

After a suitable season for rest and recreation, he, in October, 1841, visited New York for the purpose of prosecuting study in the public institutions of the city, and attending a course of lectures in the University Medical College. He remained here until March, 1842, when he returned to Claremont and commenced business in connection with Dr. Thos. B. Kittredge, now of Keene. At the close of one year, Dr. Kittredge left Claremont, and Dr. Tolles was soon in possession of a large and lucrative practice, which he retained for more than 35 years, performing most of the surgical operations required in the vicinity, during this period, and being often called, also, as counsellor with his brethren, in the more important cases, both surgical and medical, coming under their care.

Dr. Tolles had no very ardent aspirations for official positions, and yet he served in other capacities than professional. On one occasion he was chosen a Presidential Elector, and on another a member of the convention to revise the constitution of N. H. He was also a member of the Board of County Commissioners, and acted as its chairman three years, when the law was first en-

forced. He was one of the projectors and committee of the Stevens High School Building, was for four years on its Board of Management, and a Trustee of the Stevens Fund. He was one of the directors of the old Claremont Bank, was chosen a director of the National Bank, in 1862, and rechosen annually, till death. He was an officer, also, in the Sullivan Savings Bank, from its foundation, and in all these relations maintained unblemished character, ever retaining the confidence and respect of his fellow townsmen. Indeed, he was a good citizen, and a steadfast friend of order, improvement and education. He possessed an ardent love for the duties of his profession, and a high regard for its honor and greatest usefulness; was ever ready to obey a summons to the sick room; was quick in diagnosing disease, as well as in deciding what course to pursue in sudden illnesses and accidental injuries, and shrank from no responsibility which the urgency of cases seemed to demand.

As it had been one of the great aims of his life to conquer disease, he strove to be definite in his observations, and diligent in the use of his leisure moments, and how well he succeeded let the many who have received ministries at his hands give answer. But while so watchful of the ills of others, of his own infirmities he was too unobservant, and before he even suspected danger, Bright's disease had wrought its degenerating influences, and developed its sympathies in all the vital organs. Intelligence was quickly followed by unconsciousness, and the activities of life exchanged for the stillness of death, which occurred on the 24th of June, 1879, in the 74th year of his age.

A large number of young men prosecuted their medical studies under the direction of Dr. Tolles, and so far as known all have been successful in life. While quite young he became a member of the Masonic fraternity, and ever after evinced the strictest fidelity to his obligations, and a very high regard for the order. His religious views were scriptural, and though not associated with any body of Christian believers, he was a worshipper at the Protestant Episcopal Church, and a generous supporter of the institutions of religion.

December 8th, 1831, the deceased married Miss Frances J. Upham, of Weathersfield, Vt. She died of consumption, February

26th, 1833, and the December following he married Miss Jane Weston, of Rockingham, Vt., who yet survives. They have had five children, three of whom died in infancy. The others, a son, Dr. C. W. Tolles, and a daughter, reside in Claremont.

OBITUARY NOTICE

OF

DANIEL E. WELLS.

BY H. B. FOWLER, M. D.

Daniel E. Wells, a descendant of a New Hampshire yeoman, was born in Woodstock, N. H., October 21, 1829. He received an academic education at Royalton, Vt., and Boston, Mass. At the age of 19, he commenced the study of medicine under the preceptorship of Drs. Joseph Dennison and Daniel Rix, of Royalton, Vt. He attended two courses of medical lectures at Woodstock, Vt., from which college he received a diploma, in 1851.

For a year after receiving his degree, he rode with one of his preceptors, acquiring the practical part of his medical education so much needed by a book-worn student.

In 1852, he was joined in marriage to the esteemed lady, who, with an only daughter, and an adopted son survives him.

Soon after he commenced practicing in North Danville, N. H., where he remained until 1857, at which time he moved to Franconia.

In 1864, he was commissioned Assistant Surgeon of the 109th U. S. colored infantry, and assigned to duty at Point of Rocks Hospital, Va., where he was stationed till he received leave of absence, and subsequently an honorable discharge on account of sickness.

In choosing the practice of medicine for his life work, he undertook a task which time showed his constitution could not support, and in 1870 we find him in impaired health, with joints disfigured by chronic rheumatism, leaving his many friends in Franconia

and beginning the more quiet life of a druggist in Hardwick, Vt., from which place he moved to Bristol, N. H., in 1873.

There he remained as an apothecary one year, and then began practicing in Alexandria.

In 1876 he moved to Bethlehem, N. H., where he practiced three years.

In 1879, we find him opening an office in Hill, N. H., where, on the approach of winter, he gradually sank from the combined effects of rheumatism and Bright's disease, dying on the 30th day of December, 1879.

Dr. Wells began life almost in the shadow of the Franconia branch of the White hills, on whose stony face the Creator's sign hangs out, informing all who gaze at the grand old profile that men are made here; and well was the Great Architect's design fulfilled in him, for a more dutiful son, Christian neighbor, kind parent, or sympathizing physician one rarely meets.

He was a prominent Mason, an earnest worker in the church, and his smiling face will be long remembered by all who had the pleasure of his acquaintance.

OBITUARY NOTICE

OF

ALFRED R. DEARBORN, M. D.

BY DR. GEORGE COOK.

All are reminded with every return of our annual meeting that the physician, too, must die. His mission is to stay the progress of disease and suffering, and through his instrumentality untimely death comes less often among the people. Yet he, too, must answer the summons, whether it comes at the beginning, at the meridian, or at the honored close of a professional life.

Alfred R. Dearborn, M. D., was born in Epsom, N. H., October 10th, 1843. He acquired his preliminary education at Pembroke Academy, and began the study of medicine with Dr. B. H. Phillips, of Suncook, passing a portion of his pupilage with the late Dr. W. D. Buck, of Manchester. He attended medical lectures at Dartmouth, Harvard and Bowdoin, graduating from the last mentioned school in 1866.

Soon after his graduation he married Miss Mary A. Moore, daughter of the late Archelus Moore, Esq., of Loudon, and in July, 1866, entered upon the practice of his profession, at East Weare.

Here he soon built up a large practice, and won the confidence and esteem of his fellow townsmen. From people living in Weare, I find the universal testimony to be, that Dr. Dearborn was highly respected and beloved. He continued in active practice, doing a large business and riding over a wide extent of country, until December, 1874, when he was stricken down with pneumonia.

We may say he never fully regained his usual health, but in the following year he did some business, what he was able to. Finding,

however, that he could not answer the demands made upon him by his patrons, he sold out his practice to Dr. Frank Eaton, and in May, 1876, moved to this city. For a while he seemed better, after his removal here, and soon acquired a very fine business.

With the usual history of good and poor days in his disease, he attended to his professional work until within six weeks of his death, and even then he kept up with an almost indomitable energy and perseverance, riding out every pleasant day for three weeks more.

While in Weare he united with the Baptist church; and on removal to Concord, joined the First Baptist church. In 1870, he became a member of the Society, and was a constant attendant upon its meetings. He also was a member of the Centre District Medical Society.

During the last few weeks of his life he was frequently visited by the physicians in this city, and it was the writer's sad privilege to watch the slow but sure progress of that often insidious disease, pulmonary tuberculosis, knowing that no earthly power could hinder or put far away that last great change. Dr. Dearborn was an honest Christian man and physician. What higher eulogy can be pronounced upon any one? Still, as it is the last token of respect we, as a society, can present to the memory of our deceased brother, I would say more. It is a most pleasant thing to contemplate such a life. Modest and unassuming he never sought praise, or renown, but did his whole duty, alike as physician and man, husband and father. All in our profession who had occasion to meet him, speak only of that same honorable conduct which characterizes every true professional life.

He died, December 18th, 1879, peacefully and calmly, fearing not death, but with an unfaltering trust in Christ, the physician of our souls.

He is survived by a wife and four young children.

Well may it be said of him, "He did good as he had opportunity, hence there remaineth to him rest."

OBITUARY NOTICE

OF

DR. BENJAMIN E. HARRIMAN.

BY A. H. CROSBY, M. D.

A pagan aphorism, which, in process of time, has almost become crystallized into a Christian maxim, tells us that "Whom the gods love, die young;" and it is not strange that to us physicians it should sound like an universal axiom, for in the combat that is constantly waged by cultured skill against the powers of disease and death, the young, the ambitious and the brave, stand shoulder to shoulder with the veterans of hundreds of well fought fields. Thus, the "grim hand" often launches its deadliest shaft past the tried soldier whose honors are already gained, only to pierce the breast of the new recruit, who is intent upon winning the laurel which crowns success.

Our own annals, alas, contain the record of many such, cut off in early manhood, before the sun of their lives had reached its zenith. Of one of these (a former pupil and trusted friend) it becomes my sad duty to speak to-day. Benjamin E. Harriman, M. D., was born in Concord, October 20th, 1854, while his family were temporarily residing at the capital, his father, ex-Governor Walter Harriman filling, at that time, the responsible office of State Treasurer. Dr. Harriman's great grandfather was one of the early settlers of the town of Warner, and while his strong arm was clearing the land which was to be the home of the family, he was accidentally killed by a falling tree, at the age of 28 years. His grandfather, for whom our friend was named, was a very prominent man in Merrimack county, often and acceptably holding its offices of honor

and emolument. His father is too well known to us in New Hampshire, as a man of affairs, to require special notice at this time and place.

Young Harriman spent the earlier years of his life in Warner, where he is remembered as a bright, promising and affectionate boy, who gave his parents no anxieties, as his associations were always pure and his companions well selected. It was the writer's privilege to stand upon the highest point in the beautiful cemetery, in the village of Warner, while the remains of our friend were returned to earth, in a spot selected by himself, and which of itself proved the purity of his esthetic taste. The ground there falls abruptly to a charming meadow, bounded by the winding river, of which glimpses were caught as the setting sun penetrated the foliage in pencils and arrows of light, illuminating now the deep green of the sward and then the colorless crystal of the water as it flowed at our feet. Here was gathered a sympathetic concourse of the doctor's old friends and neighbors, and the quivering lip and moistened eye, so often seen, told of the estimation in which he was held by those who knew him longest and best.

Dr. Harriman acquired a good practical education in the high schools of Warner, Concord, and Boston, and in the Seminary at Tilton. In 1874, he entered my office as a medical student, and remained with me, except during his absence at lectures, until his graduation at Dartmouth College in November, 1877. Although eminently practical, our young friend seemed to prefer didactic instruction, for he attended three courses at Dartmouth, one at the University of Vermont, and two at Bellevue College, New York City. After the first year of his pupilage he began to seek every opportunity of reducing theory to practice, and was a capital assistant in surgical operations, giving ether with great prudence, and applying dressings with remarkable readiness and dexterity. At Bellevue College he was made an assistant in the "out patient" department, and was entrusted with the sole care of many important and critical cases, acquiting himself to the entire satisfaction of his superiors.

While a pupil in my office, Dr. Harriman received the first warning of the disease which finally terminated his life. Being upon the street and apparently in his usual health, he suddenly became uncon-

scious and fell to the ground. This lasted but a short time, and he was able to climb the stairs to the office. In my absence he was examined by a medical friend, who found the heart beating irregularly, and the large arteries very full and tense. Sometime afterwards he had quite a severe hemorrhage from the lungs, and after this, for a while, he felt no more disturbance about the heart.

In December, 1877 (the next month after receiving his degree), Dr. Harriman opened an office in Manchester, and almost immediately acquired a very fair practice, and met with a success most flattering to a beginner. In June, 1878, however, he had another and larger hemorrhage, and was greatly prostrated by it. Ambitious to succeed he struggled bravely on, but the powers of life were too much weakened and he was obliged to pass the winter in Florida, where, however, he lost rather than gained, and in the spring of last year returned to his father's house, as his friends supposed, for the last time. During the last autumn there was, for the first time, a little apparent improvement, and such was his restless energy and indomitable courage, that he once more attempted to practice his chosen and much loved art, and established himself in Troy, New Hampshire, in October, 1879. Here, again, he made many warm friends, and met with encouraging success, but he had overrated his strength, and the labors of a country practice so wore upon him, that he again succumbed and returned home the first of last February, and now, really, for the last time. Even then, he would not admit that his life's work was done, but combatted his disease as best he was able and looked forward to the time when he should be strong enough to renew the practice of his profession. These hopes were not destined to end in fruition, for he continued to grow worse, and finally passed peacefully away on the morning of Sunday, May 23.

He was faithfully attended, during his last illness, by his friend, Dr. Cook, of this city, aided by the counsel of all our regular physicians.

An autopsy was made by Drs. Conn and Stillings, in the presence of several other physicians, and numerous and very extensive lesions were developed. The heart was dilated, with its walls thin and flabby, and the edges of the valves thickened. This pathological condition explained the first attack, when he fell in the street, as it

was a true "fainting fit," or syncope, caused, probably, at the time, by active exercise and imperfect closure of the valves for the time being. It also accounted for other but lighter seizures, when he only found relief in the recumbent position, continued until the exciting cause had termimated naturally, after nature's best remedy, viz., rest. The pericardium contained an abnormal, but not excessive amount of serum. The left lung was wholly impervious to air and was breaking down rapidly, while the apex of the right lung was in a similar condition. The omentum was almost completely absorbed and the mesentric glands extensively diseased. In short, the wonder was not that he died when he did, but that he should have lived so long.

In April, 1879, Dr. Harriman married Miss Jessie B., daughter of the late Col. Isaac W. Farmer, of Manchester, who proved herself a devoted and loving wife, giving herself unremittingly to his comfort, supporting and sustaining him until he slipped from her loving grasp into the land of shadows.

OBITUARY NOTICE

OF

ASHLEY COOPER WHIPPLE, M. D.

BY G. P. CONN, M. D.

From the earliest records of this Society it has been regarded a not unworthy task for the living to record the merits of the dead.

Exalted virtues of character, heroism in periods of trial, superior endowments and cultivation, practical success, and above all a spirit of benevolence which forgets itself in the pursuit of the advantage and comfort of others, are some of the traits that should not be suffered to die with the mortal part of man's nature.

It is no reflection upon other learned callings, to say that in none of them is found a larger share of true and unostentatious worth and self-sacrificing labor than in the medical profession.

The subject of this sketch, Dr. Ashley Cooper Whipple, was born in New London, Merrimack county, in the year 1852, and died in Ashland, Grafton county, April 4th, 1880, only having reached the age of 28 years and 2 months. He was the oldest son of Dr. Solomon M. Whipple, of New London, an ex-president of this Society.

He received his preliminary education at New London academy, an institution of high rank in this state, finishing his course in 1870, when he at once commenced the study of medicine with his father.

The year 1871 was spent as an attendant in the New Hampshire Asylum for the Insane, in charge of one of the wards, and he took his first course of lectures at Dartmouth Medical College in 1872. He passed the fall of 1873, and spring of 1874, attending lectures at the University of New York.

At the close of the course, he was examined for a degree, and successfully passed the examination ; but, the time allotted for study not having been completed, he did not take his diploma at that time, but preferred to wait until his time of preparatory study was fully passed, when he again went back to our own medical college at Hanover, and successfully passing another examination, received the degree of *Doctores Medicina.*

During the interval in 1874, between leaving New York and going to Hanover, he located in Ashland, and was at once successful in securing a good patronage. By hard labor in his profession, and a conscientious regard for the true welfare of his patrons, Dr. Whipple became endeared to the public, and was held in high esteem by the profession around him.

His field of labor was one requiring long drives and a great deal of hard work, yet he never favored himself, nor in any way evaded responsibilities.

His zeal in his work for his patients, and his love of the profession, was commendable, yet, had he had more thought of himself in caring for his own health—both in the present and future—allowing himself some relaxation, after long periods of careful watching and great anxiety for those under his charge, it is possible he might have been spared to do greater work for those around him. When admonished by his friends that a physician's vital power could not endure a constant strain, any more than other people, he never seemed to have a thought that such reasoning in any way applied to himself, but labored on as one who never knew fatigue.

An intimate friend wrote me thus in regard to his work, and the confidence he had secured with the public where he was located :

"He was possessed of sterling, sound common-sense and discernment. He, not the patient's family or any friend, treated the case under consideration, and he would not yield to any non-professional judgment as to whether he should have medicine or not. He often told people, 'I supposed you wanted my opinion and my advice, not my medicine unless medicine was required.' He was kind to the poor, and sought to do them justice with as much assiduity as the more affluent."

Near the close of 1876, he was married to Miss Frances Anna Hoyt, who, with one child, is left to mourn his early death.

His death was from typhoid fever, from which he had only been considered seriously ill about one week, yet it was plain that at least two weeks more should have been added, as from all the information that could be obtained he had been quite sick and suffered a great deal without general complaint, and with his characteristic power of endurance and indomitable will he continued to keep about the house and see a few patients long after a majority of men would have taken their beds.

In his death the profession and the Society have lost an enthusiastic member, the public a kind and eminently faithful friend, and his family the strong arm and will of an effectionate husband and father.

APPENDIX.

REPORT OF DELEGATE TO DARTMOUTH MEDICAL COLLEGE.

Mr. President and Fellows:

I have the honor to report the completion of my duties as your delegate to the Commencement exercises at Dartmouth Medical College, on the 11th day of November, 1879.

Twenty-three students presented themselves for examination; of this number, twenty-three passed creditably, and acquitted themselves with honor.

This being my first visit to Dartmouth, I naturally felt great interest in ascertaining its educational advantages, and I take great pleasure, in this connection, to acknowledge the unwearied courtesies of Professors Frost and Field, through whose kindness the various departments were open for inspection.

I do not hesitate to say that, in my opinion, it is second to no similar institution in the country. I have no words but those of commendation for all that came under my observation. If I were to designate, specially, any feature where all are excellent, I should point to the Stoughton Pathological Museum. This is one of the grandest attractions of the college. It is already very large, and is constantly increasing. From a careful examination of many of its specimens, I can, with justice, pronounce them the finest I have ever seen.

To the earnest seeker after medical knowledge, the value of such a collection is inestimable,—forming, as it does, a complete medical thesaurus. May we not hope that such laudable and painstaking endeavors on the part of the Faculty will secure for this time-honored institution the fullest patronage? Especially should New Hampshire afford it her fostering care and protection.

It is my fervent desire and confident hope that the best and purest of our young talent may, in the future as in the past, find

its way to this noble college. Within its walls, and surrounded by the halo of its past and increasing greatness, the student, if he fails to obtain a thorough, practical education, may blame none but himself; for, with such resources at his command, who but a dunce could fail.

I beg permission to offer, as prizes, Emmett's "Principles and Practice of Gynecology," and Goodell's "Lessons in Gynecology," to the two students in the medical class, at Dartmouth, who shall graduate in 1880, and who shall pass the best written and oral examination before the Professor of Gynecology, the awards to be made or designated by him.

I do not tender these volumes as an expression of money value, but rather as an incitement and encouragement to excellence in one of the grandest departments of the profession.

I have the honor to be,
Very respectfully,
Your obedient servant,
S. C. WHITTIER.

Report of Meeting of the American Medical Association, for 1880.

Having been appointed to make a report of the meeting of the American Medical Association, I beg leave to submit the following:

The thirty-first annual meeting of the American Medical Association was held in Association Hall, in the city of New York, June 1, 2, 3 and 4, 1880. It was the largest held since the war. The Association was called to order by the President, Lewis A. Sayre, M. D., of New York city.

Prayer was offered by W. F. Morgan, D. D.

The address of welcome was given by Dr. T. Gaillard Thomas. After alluding to the great progress which had been brought about through the instrumentality of the printing-press, the railroad, and the telegraph, "which, and which alone, had rendered our civilization superior to that of any which had preceded the nineteenth century," and alluding to the general elevation of professional tone throughout the world, he warmly welcomed the delegates to the hospitality of the homes of the physicians of the city, and to the inspection of its hospital wards, "whose hygienic appointment," he said, "would put to blush those of the statliest palaces of European Kings, and convince, by incontestable evidence, how true, how loyal, and how sincere an appreciation of the science and art of medicine the representative city of America had acquired."

After the reading of some minutes, by the secretary, the president, first expressing his sincere thanks for the honor conferred upon him by electing him to the highest office of the Association, gave the annual address.

He spoke of the value the Association had been to the profession of the country, improving its morale, stimulating it to scientific investigation, and increasing mutual respect and good feeling

between its members; and of what had been done by the profession in America for the improvement of medical and surgical science. Here he instanced anæsthesia,—"an American suggestion,"—the magnitude of its blessings the imagination fails to comprehend; "ovariotomy, another American contribution," which had done "as much towards saving human life as any other surgical discovery in the nineteenth century." "Of gynecology," he said, "the whole professional world cheerfully and gratefully acknowledges the original and valuable contributions of Sims, Emmett, Thomas, Peaslee, Atlee, Kimball, Taylor, Pallen, Dunlap, Minor, and others in this department."

"The new operation of litholapaxy, as performed and described by Bigelow, of Boston," he declared, "one of the grandest triumphs of modern surgery, and of which any American surgeon may justly feel proud."

The method of securing absolute rest, by the use of the plaster-of-Paris jacket, in diseases of the vertebrae, was mentioned as "another triumph for American surgery, admitted not only in England, but in all parts of the civilized world."

Mention was also made of the improvements in the treatment of diseases of the larynx.

Referring next to the claims the metric system has upon the association and the profession, the president passed on to consider the question of publishing the transactions in the journal form, which he strongly advocated, setting forth arguments seemingly conclusive to every member of the great advantage of this form over that heretofore used.

To follow in detail the meetings of the general sessions on each morning, and the meetings of the special sections in the afternoon, would occupy more space than could be allowed in this report, and indeed would be superfluous, as full reports have already been published in the journals, and undoubtedly been read by the members of this society.

Many valuable papers were presented, both in the general and special sessions. It would be a work of supererogation to single out any for mention. All had their interest, and none could be fully appreciated without a more detailed report than the space allotted in this paper would admit. Every one should be read in

full by those who would keep abreast of the advances in the profession.

Every member of the Association, and every physician in the country who has had the privilege of seeing the Medical Record, owes a debt of thanks to Messrs. Wm. Wood & Co., for their full report of the proceedings of the Association.

On Tuesday evening the members of the Association and their lady friends were given a reception at the Academy of Music. It was largely attended, the profession being represented by members from all parts of the country. The whole affair reflected great credit upon the profession of New York city, and those who had the matter specially in charge.

Wednesday evening a complimentary entertainment was given at Booth's Theatre, to the members of the Association, by Messrs. Reed & Carmick, Scott & Brown, and the New York Pharmaceutical Association. Othello was presented. The attendance was very large, and the acting of the highest order.

Thursday evening, receptions were held at the houses of Mayor Cooper and August Belmont, and at the Academy of Medicine. At the Academy the members were entertained by Dr. Fordyce Barker and Dr. T. Gaillard Thomas, President and Vice-President of the Academy.

Friday afternoon an excursion was given to the Association, by Messrs. Wm. Wood & Co., in the steamer Grand Republic, up the Hudson as far as Yonkers, up East River around Blackwell's Island, and down the harbor to Coney Island. Elegant music was furnished by Gilmore's band. A repast was furnished at the Island.

Thus passed one of the most successful meetings of the Association. Everything was done by the profession, and its friends of the city of New York, to make the meeting of the Association both profitable and enjoyable. In no city could more be found to stimulate the members to greater zeal, and in no city could they be entertained with greater munificence.

The next meeting will be held in the city of Richmond, Va., on the first Tuesday in May, 1881.

Report of Delegate to International Medical Congress.

Mr. President and Fellows:

The International Congress of Medical Science, to which I had the honor of being your delegate, met at Amsterdam, on the 7th of September, 1879, the exercises continuing the whole of the week.

Everything that the citizens could do was done to make the Congress a success. Indeed, what better place could be found for such a meeting than this city below the level of the sea.

On every side the evidence that the very life and existence of the people depended on their power to control and bend to their own will natural laws, served as a constant reminder that our own profession was only that of an assistant to nature in carrying out her laws, or correcting her misdirected efforts.

The first day was devoted to general business and listening to an address by Prof. Dondus, president of the committee of organization. The real work of the Congress began the following morning.

As usual, the general term medicine was subdivided into its various branches, surgery, medicine, hygiene, midwifery and gynecology, biology, and the other "ologies," some nine sections in all.

These various subdivisions, each with its own organization, met daily at 9:00 A. M., and occupied the morning with papers and discussions.

A general meeting was held every afternoon from 1:30 till 4:00 o'clock, when addresses were delivered by Becker, of Heidelberg; Lister and Drysdale, of London; Chanveau, of Lyons; Virchow, of Berlin, and others, two being assigned for each day, and speaking on some subject in which he had made special research.

Representatives from our own country were naturally comparatively few, but Dr. Seguin of New York was to be found with the section of Psychology, Dr. Trumbull of Philadelphia was prominent among the otologists, while Dr. Sayre gave a special demonstration, at one of the hospitals, of his famous plaster jacket.

I will make no attempt at a resumé of the proceedings of the Congress, for, from the way the work was subdivided, my report would necessarily be only an incomplete one, and indeed it would be useless to refer briefly to what you already have seen in the medical journals.

You will pardon me, however, I trust, in referring to one address, since the subject has given rise to more thought, discussion and experiment among surgeons than any theory advanced during the last quarter of a century; and which certainly is the longest step forwards that surgery has made since the introduction of anaesthetics.

I refer to Lister's method of dressing wounds under a carbolized spray, with carbolized gauze, and the free use of drainage tubes.

Such a reception as was accorded Prof. Lister, as he came forward to speak, I never expect to see again in a meeting of our profession, schooled as it is to non-betrayal of emotion. It was a reception given the successful general on his return from the field. Tumultuous applause soon drowned the clapping of hands, and with one accord, in the wildest enthusiasm, the representatives from all quarters of the globe rose to welcome the man whose antiseptic dressing has so changed the results of surgical operations. His address was a reiteration of his well known ideas.

My purpose, in thus referring more particularly to Lister's reception, was to call the attention of our own surgeons to the unanimity of feeling that prevailed at the Congress, as to the absolute necessity of the use in surgical operations, of a dressing, in all essential points, the same as the one advocated by him.

Indeed the opinion seems fixed that the so-called antiseptic dressing can no longer be regarded as a hospital appliance, but must, in justice to ourselves, and in our duty towards our patients, be used in private cases.

It was in the evening that the warm-hearted people of Amsterdam showed their interest in the Congress.

Fetes, concerts, receptions followed night after night, while one whole day was devoted to inspecting the docks and the famous canal connecting with the North sea.

Thanking the Society for the great and unexpected honor they saw fit to confer on me, I remain,

Yours most respectfully,

CHAS. R. WALKER, M. D.

Strasburg, April 27, 1880.

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TRANSACTIONS

OF THE

N. H. MEDICAL SOCIETY,

AT ITS

NINETY-FIRST ANNUAL SESSION,

HELD

AT CONCORD, N. H., JUNE, 1881.

CONCORD:
PRINTED FOR THE SOCIETY, BY EVANS & SLEEPER.
1881.

PROCEEDINGS

OF THE

New Hampshire Medical Society.

MORNING SESSION.

TUESDAY, June 21, 1881.

The Ninety-First Annual Meeting of the New Hampshire Medical Society was held in Union Hall, in Concord, Tuesday, June 21, 1881, the President, Dr. G. P. Conn, in the chair. Prayer was offered by the Chaplain, Rev. F. D. Ayer.

The reading of the records of the last meeting was dispensed with, and the following committees were appointed by the chair :—

To Receive and Introduce Delegates : Drs. Blaisdell, of Contoocook ; French, of Concord ; Towne, of Manchester.

To Audit Treasurer's Account: Drs. Carter and Stillings, of Concord.

To Examine Patients, and Report: Drs. Pray, of Dover ; Weymouth, of Andover ; Hoyt, of Grafton ; Graves, of Boscawen ; Wheeler, of Pittsfield ; Smith, of Hanover.

Drs. E. F. Upham of West Randolph, Vt., J. R. Chadwick of Boston, J. L. Hildreth of Cambridge, and H. W. Williams of Boston, President of the Massachusetts Medical Society, were delegates and guests

The following report of the proceedings of the Council was read by the Secretary :—

CONCORD, June 20, 1881.

The Council met at the office of Drs. Gage and Conn, at 8 o'clock P. M., and was called to order by Dr. Conn, chairman.

The following members answered to their names on calling the roll :—

Drs. S. C. Whittier, G. C. Howard, D. P. Goodhue, S. P. Carbee, C. F. Leslie, C. W. Hanson, F. A. Stillings, J. C. Wheat, L. M. French, T. M. Gould, G. L. Mason.

The following gentlemen acted as substitutes for members unable to be present :—

Dr. A. H. Crosby, for Dr. J. R. Coggswell; Dr. C. P. Gage, for Dr. L. M. Knight; Dr. W. B. Porter, for Dr. P. A. Stackpole; Dr. George Cook, for Dr. W. D. Chase; Dr. A. P. Richardson, for Dr. S. W. Davis; Dr. A. H. Robinson, for Dr. G. P. Greeley; Dr. W. G. Carter, for Dr. I. A. Watson.

The Secretary presented the applications for membership of the following physicians :—

Dr. JOSEPH ADDISON JACKSON, of Manchester.
Dr. CHARLES R. GIBSON, of Woodsville.
Dr. EDWARD P. HALE, of Danvers, Mass.
Dr. E. O. FOWLER, of Danvers, Mass.
Dr. FRANCIS L. BANFIELD, of Wolfeborough.
Dr. CHARLES ELIHU QUIMBY, of Great Falls.
Dr. JAMES B. PRESBY, of Sandwich.
Dr. THOMAS B. SANBORN, of Newport.
Dr. GEORGE H. SHEDD, of Bartlett.
Dr. EDWARD O. OTIS, of Exeter.
Dr. WALTER H. DINSMORE, of Amherst.
Dr. ALVA R. CUMMINGS, of Claremont.
Dr. GEORGE W. HUNT, of Cornish.
Dr. F. T. MOFFATT, of Littleton.
Dr. C. R. GARCY, of Ashland.

It was voted, unanimously, that the above named physicians be proposed for membership.

Drs. John W. Barney of Concord, and C. A. Carlton of Salem, Mass., were placed on the retired list, at their request.

Dr. George Cook, Secretary of the Board of Censors, made the following report, which was accepted :—

REPORT OF CENSORS.

CONCORD, June 21, 1881.

The following licenses have been granted during the year :—

DATE.	NAME.	RESIDENCE.	GRADUATED.	YR.	BY DR.
1880.					
July 24,	James B. Presby, M. D.,	Sandwich,	Dartmouth,	1879	Cook.
" 29,	Walter H. Dinsmore, M. D.,	Amherst,	Bowdoin,	1880	Adams.
Aug. 30,	Edwin G. Annable, M. D.,	Fitzwilliam,	University of Vt.,	1880	Cook.
" 31,	Orren B. Hanson, M. D.,	Farmington,	Bellvue Med. Coll.,	1879	Cook.
Sept. 18,	Evariste C. O. Mongeon, M. D.,	Manchester,	Univ'sity of Victoria, Montreal,	1859	Adams.
" 28,	William P. Baird, M. D.,	Not located,	Univ'sity of Mich.,	1858	Parsons
Oct'r 2,	Darius S. Dearborn, M. D.,	Milford,	University of N.Y.	1875	Cook.
" 13,	John D. Lovering, M. D.,	Manchester,	Albany Med. Coll.,	1860	Adams.
Nov. 1,	Herbert F. Pitcher, M. D.,	Milton,	University of Vt.,	1878	Hill.
" 8,	Charles C. Messer, M. D.,	Grafton,	Dartmouth,	1879	Cook.
" 19,	Henry M. French, M. D.,	Concord,	Dartmouth,	1878	Adams.
1881.					
Jan'y 3,	Edward Abbott, M. D.,	Sanbornton,	Dartmouth,	1880	Cook.
" 11,	Henry S. Hutchinson, M. D.,	Francestown,	Bellvue Med. Coll.,	1880	Cook.
" 17,	Charles H. Shattuck, M. D.,	Lebanon,	Dartmouth,	1880	Cook.
Feb. 17,	Joseph E. A. Sanouette, M. D.,	Manchester,	Bishop's College, Montreal,	1872	Adams.
" 19,	Charles R. Walker, M. D.,	Concord,	Harvard,	1878	Cook.
Mar. 16,	Charles F. Flanders, M. D.,	Manchester,	Dartmouth,	1880	Adams.
Apr. 11,	William F. Baldwin, M. D.,	Hill,	Dartmouth,	1880	Cook.
" 20,	John W. Staples, M. D.,	Franklin Falls,	University of Vt.,	1880	Cook.
May 12.	Thodule Cyplhot, M. D.,	Claremont,	Univ. of Victoria,	1881	Adams.
" 14,	Justin G. Hayes, M. D.,	Dover,	Univ. of N. Y.,	1881	Hill.
" 21,	Frank E. Whitney, M. D.,	Rochester,	Univ. of N. Y.,	1881	Hill.
June 10,	Samuel J. Barsford, M. D.,	Berwick, Me.,	Bowdoin,	1881	Hill.
" 21,	Francis L. Banfield, M. D.,	Wolfeborough,	Bowdoin,	1881	Cook.
" 21,	William H. Nute, M. D.,	Farmington,	Bowdoin,	1881	Cook.
" 21,	George H. Shedd, M. D.,	Bartlett,	Bowdoin,	1881	Cook.

Respectfully submitted,

GEORGE COOK, Secretary of the Board.

The following resolution was recommended for adoption by the Society :—

Whereas, a petition has been presented to Congress asking for the calling of an international commission to consider and agree upon standard methods of testing visual acuteness and color-blindness, and standard requirements of these necessary qualifications in the navies and merchant marines :—

Voted, That the New Hampshire Medical Society heartily approves of the proposed international commission, and hereby directs

the Secretary of the Society to transmit this vote to Congress when next assembled.

Voted, To recommend the appointment by the Society of a committee to appear before the Legislature to prevent the repeal of the law regulating the Practice of Medicine and Surgery.

The Committee on the Revision of the By-Laws made their report, which was accepted.

Voted, To adjourn.

M. W. RUSSELL, Secretary.

The report of the Council was accepted.

The annual address of the President of the Society, Dr. G. P. Conn, was delivered at 12 o'clock.

Dr. A. H. Crosby, of Concord, read a report on Surgery, embracing the reports of Dr. J. R. Ham, of Dover, and Dr. F. A. Stillings, of Concord.

Dr. D. W. Jones, of Portsmouth, read a treatise on Practical Medicine.

At the conclusion of Dr. Jones's paper the Society adjourned for dinner, at the Eagle Hotel.

After a most excellent dinner, the anniversary chairman, Dr. C. A. Tufts, of Dover, introduced the President, Dr. Conn, Judge W. L. Foster, Chaplain Ayer, Drs. How, Stackpole, and others, who made interesting addresses.

AFTERNOON SESSION.

At 4:30 o'clock, the Society was again called to order, and listened to the reading, by the Secretary, of a paper prepared by Dr. H. M. Felt, of Hillsborough, on "Hypodermic Medication."

Dr. A. P. Richardson, of Walpole, read a paper entitled "Death, its Physical Aspects."

Dr. J. W. Parsons, of Portsmouth, read a paper on "Puerperal Convulsions."

Dr. C. P. Frost, of Hanover, read a treatise on "Etiology of Typhoid Fever."

Dr. J. R. Kimball, of Suncook, read a paper entitled "Conservatism in Medicine."

These papers were accepted and referred to the Committee on Publication.

Adjourned till 8 o'clock P. M.

EVENING SESSION.

Dr. L. G. Hill, of Dover, read his report on Necrology. Obituary notices of Dr. E. E. Phelps of Windsor, Vt., Dr. G. C. Terhune of Hackensack, N. J., and Dr. Geo. W. Garland of Lawrence, Mass., recent members of this Society, were read and referred to the Committee on Publication, and are published in their appropriate place in these Transactions.

The Committee on Prize Essay, reported as follows:—

The committee appointed at the last annual meeting to report the conditions of Prize Essay, respectfully present the following:—

1. There shall be two prizes, of thirty and twenty dollars respectively, for best and second best essays relating to medicine or surgery; subjects to be selected by their authors.

2. Essays must be forwarded, accompanied by a sealed envelope containing name and address of author, and superscribed by some device or motto corresponding to one borne by manuscript, to either the President, Vice-President, or Secretary of this Society, who shall constitute the committee of award, before the 1st day of June, 1882.

3. Decision of committee of award at next annual meeting.

4. Competition open to all members of this Society, except honorary members.

5. Prize essays will be considered property of the Society, and appear in the published transactions for the year; others to be returned to their authors, when so requested.

S. M. DINSMOOR,
A. H. CROSBY,
GEO. P. GREELEY,
Committee to report conditions of Prize Essay.

Voted, To accept the report.

Voted, To lay the report on the table.

On motion, it was—

Voted, That the President appoint a committee of three to take into consideration the appointment of a historian for the Society.

The President appointed the following members to constitute said committee: Drs. Stackpole of Dover, Crosby of Concord, and Frost of Hanover.

After an interesting discussion of several medical and surgical cases by different members, the Society adjourned till 8 o'clock, Wednesday morning.

MORNING SESSION.

The reports of the Delegates to Dartmouth Medical College, and to Medical Societies, and the reports of District Societies, were read by their titles and accepted.

The Executive Committee reported as follows:—

Delegates to Dartmouth College: Dr. M. W. Russell of Concord, Dr. George D. Towne of Manchester.

Anniversary Chairman: Dr. C. A. Tufts of Dover.

Committee of Arrangements: Drs. Stillings, Cook and French of Concord.

Orators: Dr. John Wheeler of Pittsfield, Dr. George L. Mason of Laconia. Substitutes—Dr. G. C. Howard of Salem, Dr. M. T. Stone of Troy.

Report on Practice of Medicine: Dr. Haven Palmer of Meredith.

Report on Surgery: Dr. E. F. McQuesten of Nashua. Substitute—Dr. F. A. Stillings of Concord.

Report on Obstetrics: Dr. A. W. Abbott of Laconia.

Report on Necrology: Dr. D. P. Goodhue of Springfield.

Delegates to New York: Dr. D. S. Adams of Manchester, Dr. M. C. Lathrop of Dover.

To Maine: Dr. J. F. Hall of Portsmouth, Dr. C. A. Fairbanks of Dover.

To Massachusetts: Dr. T. J. W. Pray of Dover, Dr. W. B. Porter of Walpole.

To Vermont: Dr. C. F. Leslie of Sunapee, Dr. A. P. Richardson of Walpole.

To Rhode Island: Dr. E. A. Wade of Salem Depot, Dr. Henry M. French of Concord.

American Medical Association: Dr. L. G. Hill of Dover, Dr. J. W. Parsons of Portsmouth.

At 9 o'clock, the following officers were elected:—

PRESIDENT.

Dr. H. B. FOWLER, of Bristol.

VICE-PRESIDENT.

Dr. A. H. CROSBY, of Concord.

SECRETARY.

Dr. G. P. CONN, of Concord.

TREASURER.

Dr. D. S. ADAMS, of Manchester.

EXECUTIVE COMMITTEE.

Dr. J. W. PARSONS, of Portsmouth.
Dr. P. A. STACKPOLE, of Dover.
Dr. M. W. RUSSELL, of Concord.

COUNCIL.

Dr. F. A. STILLINGS, of Concord.
Dr. G. C. HOWARD, of Salem.
Dr. J. C. WHEAT, of Groton.
Dr. L. M. KNIGHT, of Franklin.
Dr. G. P. GREELEY, of Nashua.
Dr. S. P. CARBEE, of Haverhill.
Dr. L. M. FRENCH, of Manchester.
Dr. P. A. STACKPOLE, of Dover.
Dr. W. T. SMITH, of Hanover.
Dr. C. F. LESLIE, of Sunapee.
Dr. T. M. GOULD, of Raymond.
Dr. W. D. CHASE, of Peterborough.

Dr. C. W. HANSON, of Northwood.
Dr. G. L. MASON, of Laconia.
Dr. W. B. PORTER, of Walpole.
Dr. F. B. PERKINS, of Grantham.
Dr. J. N. BUTLER, of Lempster.
Dr. F. T. MOFFATT, of Littleton.
Dr. J. R. COGGSWELL, of Warner.
Dr. A. L. EMERSON, of Manchester.

CENSORS.

Dr. GEO. COOK, of Concord.
Dr. J. C. EASTMAN, of Hampstead.
Dr. D. S. ADAMS, of Manchester.
Dr. L. G. HILL, of Dover.
Dr. S. G. DEARBORN, of Nashua.
Dr. J. W. PARSONS, of Portsmouth.
Dr. G. W. HATCH, of East Wilton.
Dr. C. W. TOLLES, of Claremont.
Dr. C. R. GIBSON, of Woodsville.
Dr. HAVEN PALMER, of Meredith.

TREASURER'S REPORT.

L. B. How, Treasurer,

In account with the N. H. Medical Society, June 21,

DR.

Received from members at annual meeting, June, 1880,	$2
Collected after the meeting,	
Balance in the treasury from last year,	
	$3

CR.

For dinner tickets for invited guests,	
M. W. Russell's bill for postage, papers, &c.,	
Reporter's bill,	
Use of hall,	
Evans & Sleeper, for printing,	

Evans & Sleeper, for printing,	2 00
Evans & Sleeper, for printing Transactions,	137.52
Republican Press Association, for 300 programmes,	7.00
M. W. Russell, for services as Secretary to June, 1881,	25.00
	$243.28
Balance in the Treasury,	$153.79

We the undersigned, committee to audit the Treasurer's account, have examined the same and found it correct.

H. A. WEYMOUTH,
THOMAS WHEAT.

The President appointed the following committee to represent the Society before the Legislature :—

Drs. Crosby, Eastman, Russell, Stackpole, Whittier, Cook, and Adams.

The Society voted, on report of the special committee on semi-annual meeting, to hold a semi-annual meeting at the "Wentworth," Newcastle, early in September.

The President appointed the following committee of arrangements :—

Drs. Whittier, of Portsmouth; Eastman, of Hampstead; Stackpole, of Dover; Cook, of Concord; Adams, of Manchester; Lathrop, of Dover; Mason, of Laconia; Coggswell, of Warner.

Dr. Carter submitted the following resolution, which was adopted :—

Resolved, That papers which exceed twenty minutes in the reading, must be presented either in abstract or by extracts.

The committee to take into consideration the appointment of a historian for the Society reported as follows :—

That Drs. Conn of Concord, Hill of Dover, and Smith of Hanover, be appointed to take the matter in charge.

The report of the Committee on Revision of the By-Laws was considered, and the report was adopted.

[For By-Laws, see Appendix.]

The committee on "Bogus Medical Colleges" made their report through Dr. Adams, and the committee was continued another year.

Voted, To adjourn to the third Tuesday of June, 1882.

M. W. RUSSELL, Secretary.

PRESIDENT'S ADDRESS.

BY G. P. CONN, M. D.

Fellows of the New Hampshire Medical Society:—

Your suffrages have called me to a position, the duties of which I cannot assume without expressing to you my profound and grateful sense of the high honor that you have conferred upon me.

It is, indeed, an honor to preside over the deliberations of an assembly like this, that, with much effort, has for a brief period relinquished its individual contest with disease at the bedside, and come together to act as counsellors and teachers of each other.

It is a matter of congratulation to a presiding officer, that our meetings have always been harmonious; that all come together for one common cause, and are actuated by one common motive, the elevation of the standard of medicine throughout the State. Yet I would bespeak your counsel and assistance, and trust that with your help I may be able to maintain during this session the same professional propriety that has ever characterized the meetings of this association.

It is with great pleasure that I welcome you once more to the annual meeting of an association that is within less than a decade of its centennial anniversary, and that has inscribed upon its roll of members the names of all the great leaders in the Science of Medicine and Surgery residing within the State during the last hundred years.

The annals of medicine in any commonwealth of this country do not contain a more worthy membership, nor a more honorable record of the work performed, than should be written of the charter members of this Society, and of Nathan Smith, Reuben D. Mussey, Amos Twitchell, the Crosbys, and a host of others

who bequeathed to the generation following after them, facts and observations, the results of long, arduous toil, and close clinical study at the bedside of patients on our hillsides, and scattered along our valleys, requiring an indomitable will, and a willingness to sacrifice rest and comfort for the noble purpose of ameliorating the sufferings of the sick and afflicted.

It is well understood by most of the Fellows present to-day, that the difficulties encountered by these Nestors of the profession were manifold in comparison with the labor of obtaining clinical knowledge at the present time in our large cities, with hospital advantages, a corps of skilled assistants, trained nurses, and attendants who are educated to keep a full record of every event transpiring while the physician or surgeon in charge may be absent.

They were cool, fearless men, with minds well stored with all the elementary knowledge of the science of medicine of the day and generation in which they lived. They were students, each in his own way acquiring fresh knowledge from text-books, such as his means could afford, and from the profession around him, and having acquired new information, had the tact and broad intellectuality to use this learning in assisting nature to build up the vital force of a constitution distracted by disease from within, or that was shocked and shattered by accidental violence received from external cause.

This is not the time, nor is it for me to bring before you the medical history of our State, but I would most respectfully suggest that it is time for action to be taken in the matter of appointing the Historian of our Society, for in the few years before the coming Centennial Anniversary of our organization, almost any one, with his time occupied with the general duties of the profession, would find it necessary to wield a facile pen, and possess a strong and healthy nervous organization, to be able to obtain the facts and information necessary to do justice to the memory of those names we all hold dear, and to perpetuate their illustrious record to the coming generation.

It is all the more necessary to take this matter under early consideration, for the reason that but little is left on record of the work done by many of the most earnest laborers among the early members of this association, and in order to obtain the necessary

information, town histories and records will have to be consulted, text-books and medical journals examined, in order to correctly bring forward a statistical resumé of the professional work performed by these pioneers. There is a great deal of labor in collating facts from such sources, and you are all aware, that in comparison with almost any other profession or avocation, the public make extraordinary demand individually upon our time, in requiring us to forego any employment or pleasure, even if rest and recreation are positively demanded for our own physical well being, for it is imperative whether our professional services are desired in the present, or only a matter of expectation of some case in the dim future.

I make this suggestion, and if thought best it can be referred to a committee, with instructions to report during the present meeting, or at the next annual session.

Our by-laws, as well as a time-honored custom, makes incumbent upon your presiding officer to address you at this hour upon some topic connected with medicine.

An old English writer once remarked, "that the wisdom of the law is greater than the wisdom of any one man," and among the legal fraternity this wise and very obvious saying has almost passed into a proverb.

In like manner we may confidently assume, that the wisdom of medicine, as it is embodied in the collective learning and knowledge of many physicians in council, is greater than that which any one individual can possess. As we assemble together at our annual meetings, each one may bring his own observations and the results of his own study to bear upon a larger number of cases of disease than can be directly ministered unto by any one professional worker; each may derive from the accumulated stores of knowledge of other minds, more than his own researches can have acquired and appropriated without such aid; thus giving and receiving, teaching and being taught, the whole collective body is occupied in advancing the outposts of our professional understanding; gaining fresh confidence and new material to strengthen our defence against disease, in acquiring new means to alleviate suffering, and thus by our associate effort elevate the standard of medicine, and

contribute our share towards the amelioration of the sorrows and the misery of the sick and afflicted.

There are, in the varied departments of medicine, many subjects to which I might with propriety invite your attention, yet nearly every department has its reporter assigned, who will, doubtless, during the session, lay before you the results of his own observations and study, as well as the practical work and comments of others; therefore, I will leave the usual sections of practical medicine, surgery, therapeutics, and obstetrics, to be brought to your notice by the reporters that have been duly assigned, and ask your attention for a few moments to the section of

STATE MEDICINE

that has within the last decade made wonderful progress, and has engaged the attention of many of our most able men, not only in the profession, but among scientific observers from all the avocations in the country.

The fact that it has for its primary object the prevention of disease, and the diffusion of such knowledge as shall prevent the dissemination of epidemic and contagious influences among the masses, renders it of peculiar interest to the profession.

We can individually recall many an instance in which we have been obliged to contend with a disease manifestly developed from unsanitary surroundings, and fostered by filth remaining and contaminating the atmosphere that the patient must breathe, or the water it must drink. How often our efforts to introduce into the homes of our patients sanitary rules and regulations has been met with a decided aversion, and oftentimes with rude repulse. You was employed to use medicines in the attempt to restore the patient's health, and not to insist upon friends taking the trouble to supply pure air, pure water, and nourishment that was uncontaminated by contact with the germs of disease in another locality.

The term State or Preventive Medicine is of recent origin. I doubt if any one present, unless a graduate within the last ten years, has any recollection of hearing the term used during his pupilage, in his preceptor's office, or in the lecture-room, and even now one finds an occasional instance of a vague and indefinite comprehension of the full meaning of the expression.

An English physician defines it to be, "An application of the laws of physiology and general pathology to the maintenance of the health and life of communities by the means of those agents which are in common and constant use."

Sander, a German writer, says: "It is the care the State may reasonably be expected to exercise over the health of the individual by himself and in his relation to the community."

Dr. Stephen Smith, of New York, defines it "As the power to protect the people from pestilence, whether foreign or domestic; to discover and remove the causes of disease within and around their houses; to promote the general health of communities, and plainly to point out the ultimate relation between their physical condition and their moral and intellectual position."

Dr. Bowditch, of Boston, who has devoted more time to the subject than any other man in New England, and who has written exhaustive reports on the causation of phthisis, and other diseases that are so prevalent all over the country, says: "It is a special function of a State authority, which until these later days of scientific investigation has been left almost wholly unperformed, or exercised only under the greatest incitements to its operation, such as the coming of the plague, cholera, small-pox, or some other equally malignant disease." "By this function the authorities of a State are bound to take care of the public health; to investigate the causes of epidemics, and other diseases, in order that each citizen may not only have as long a life as nature would give him, but likewise as healthy a life as possible."

"As the chief object of the physician is the cure, if possible, of any ailment which is submitted to his care, so the far higher aim of State medicine is, by its thought and scientific investigation into the hidden causes of diseases that are constantly at work in an ignorant or debased community, to prevent the very origination of such disease."

Dr. Farr of London, who was for a long period justly recognized as very eminent authority on matters pertaining to statistical knowledge and the hygiene of the English people, remarked in an address before a scientific assembly, "that the primary object of public or State medicine is to prevent disease, but it also surrounds the sick with conditions most favorable to recovery, and diminishes

the death rate of the people." Although the term State Medicine is of recent origin, yet the idea is not a modern innovation, for the Mosaic law, the most ancient of all codes, gave the people many of the wisest of sanitary requirements, some of which were even made a part of religious observance. The laws of Lycurgus had many pointed enactments, and the ancient Greeks and Romans, once the most noble and vigorous of all the races of mankind owed to temperance and the simplicity of their manner of living to their obedience to sanitary regulations, as was inculcated by law and handed down from the higher classes by example, that vigor of body, and energy and decision of mind that made them well nigh invincible in war, wise and progressive in all that pertained to the cultivation of the arts and sciences, until they justly merited that dominant position that was freely accorded to them among all the nations of the world.

Then came that long period of the dark ages, when science and art slumbered, and fanaticism reigned supreme over the whole Eastern continent. Sanitation became one of the lost arts, and the Goddess of Hygeia was dishonored and forgotten. Filth and pestilence prevailed over the whole land, and crime and pauperism held sway over the community and the country. For centuries after the decline of the Roman Empire, that history informs us had such a system of aqueducts for a water supply, and sewers for drainage as might excite the admiration of more modern civilization, we look in vain for any recognition of sanitary work by the government or the people, or any regard for the laws of health.

Pure air, pure water, ventilation, drainage, and all the other essentials to good health, were disregarded by the masses; the causes of disease were unsought and unknown, and consequently epidemics and contagious diseases were unchecked; the death rate for long periods would run as high as fifty or seventy-five per cent. of the population. Nemesis held the sceptre, and Momus was her chief executive officer.

The doctrine of predestination, as promulgated by St. Augustine, had been siezed upon by a people made fanatical by ignorance and superstition, and was considered to be a sufficient explanation of all that was transpiring in the world at that period. The laws of

health were disregarded, and consequently each succeeding generation became a striking illustration of retrograde civilization.

Too often in the present are we reminded by observation within the recollection of an average lifetime, of how short a period is required to complete the downward career of some old family name, once honored by all, when hastened by a course of dissipation or crime, the natural outgrowth of a contempt of the laws of nature. It is no wonder, after the record that history has given us of life in the middle ages, that disease was considered as a special manifestation of an offended God, and with almost every vestige of human sympathy blotted out, that the measureless waste of human life was accounted for as one of the cardinal principles of foreordination.

In the advance of civilization, England was the first to learn that the penalties for all violations of nature's laws are as inevitable as those of the moral or civil code, as well as that material progress and national prosperity will always be in direct proportion to the due recognition of each. The great fire in London, in 1666, was a sanitary blessing in disguise, for it most effectually cleansed a vast district of the most filthy portion of that vast city, sending thousands of a crowded population out into the open country for shelter, and at once stamped out a most fearful pestilence that was sweeping over that infected district, with a death rate of more than fifty per cent. of the people taken ill. It is unnecessary to further take your time in rehearsing the work that was, or was not done in the obscure past, or to bring to your notice any prolix narration of the great work that is being performed in the present, by earnest self-sacrificing co-laborers in every civilized part of the world.

The field of State Medicine is co-extensive with every habitable portion of the earth. It contains within its boundaries all the interests pertaining to the best development of the human race, and to the maintenance of the most perfect organization and well being of not only those now living, but of the generations that are to follow.

In this country much has been done, during the last twenty years, to educate the people in sanitation; and since the establishment of the first State Board of Health in Massachusetts, in

1869, the progress of the work and the interest manifested has been rapidly increasing.

The American Medical Association has assigned to it a section, and it is thus made of equal importance in their proceedings with the other departments of medical science. An association, national in extent and voluntary in character, has been formed for the purpose of promoting the interests of the public health. This Public Health Association has a membership from every State in the Union, and from all the professions, as well as from the ranks of the business men. A National Board of Health has been established, liberally endowed with pecuniary means, to affect great results as soon as each and every State shall provide the means of a hearty coöperation in its field of labor.

Twenty-one States have boards of health that are annually accomplishing more to advance the material prosperity of the people than can be estimated, while three other States have passed acts establishing similar boards, but from impecuniosity withheld any pecuniary appropriation for their support, thereby rendering them without any practical effect, and defeating the object for which they were contemplated.

The profession generally acknowledge that the people are far more interested in matters pertaining to the prevention of disease than was considered possible a few years ago; and the press, ever ready to supply the public with information on any subject that will find readers, have within the past five years given to the world valuable reports of epidemic disease, and interesting abstracts from papers on special subjects connected with sanitation in towns and cities.

It is but natural that the public should look to us, as representatives of the profession of medicine, to point out the way and become the leaders of public opinion in a matter that our education should fit us to be the advance guard. Yet it is a humiliating fact, that less than half a dozen of our medical colleges have given it the dignity of a professor's chair, or even refer to it as being of sufficient importance to be included in their curriculum of study.

The fact that our students may have a professor who would have them boldly assert that psychological medicine can fix to a

hair's breadth the particular lesion of the brain or nervous system in any given case; or that therapeutics is to arrive at such a state of perfection that drugs will in due time be administered with that delicacy of selection that special diseases may be cured by special means; or that a medicine can be applied to each of the several tissues without disturbing the harmony of other parts of the system, does not fit the aspirant for honors in the profession, for the part he is expected by the public to perform in eradicating and preventing the spread of infectious and contagious diseases. It does not matter so much that one can locate the exact point in the brain that has suffered violence from over mental work or malarious poison, providing he can prevent that injury being done by timely pointing out the danger, and intelligently conduct the patient from the vortex of mental ruin.

It has been said that New Hampshire, as a State, is a healthy locality in which to reside, and that our sparsely settled people need have no apprehension of epidemic influences. Yet epidemic and infectious disease have prevailed within our borders, and there is no guarantee against their appearance again. Nor have we any organized means of investigating the probable cause, or to guard against its dissemination.

There was an epidemic of malignant or putrid sore throat, near the close of the last century, that was unusually severe in some localities of the eastern portion of the State, that is now supposed by many to have been much the same disease as the diphtheria of the present day.

Typhus and spotted fevers prevailed about 1830. In 1843, erysipelas, in a malignant form, swept through the valley of the Connecticut. from its source to tide-water; and in 1855 a malignant form of dysentery prevailed in many towns in the central portion of the State, while there is scarcely one present that cannot name one or two towns in which diphtheria has not been alarmingly prevalent within the last twenty years. It is generally understood that in case a serious epidemic occurs among the herds of cattle that are scattered over the State, the governor and council are at once to be petitioned to afford such relief as may be possible by instituting an investigation into the causes of the disease, and

to suggest the means of staying its progress and preventing its influence upon those not yet affected.

This was done soon after 1850, and again in the winter of 1879 and 1880, when an epidemic of small proportions made its appearance in a fine herd of cattle in the town of Haverhill, when the governor was importuned by the owner and others for aid as is provided for by the statute. The petition was heard, and the Board of Agriculture at once assumed unusual activity; telegrams passed over the wires at lightning speed; letters of inquiry were posted to distinguished veterinary surgeons; and a commission was appointed without delay to investigate into the causes of the disease, as well as to report upon the malignant or benign influence that would be experienced by other herds in the vicinity. The commission attended to their duty faithfully, while the whole State,—if not the whole of New England,—eagerly watched for some intelligence through the columns of the daily press. It was found that less than a dozen head of cattle were sick. Some five or six died, or were killed during the investigation; and the epidemic subsiding, it was concluded that a little more intelligent sanitary care of the stock and their surroundings would have probably prevented the disease. Yet the owner has since asked the State to indemnify him for the loss of his cattle.

No one for a moment doubts the propriety of the governor ordering an investigation, or the fact that it was made in the most scientific manner. Neither can there be any doubt; but the report of the commissioners, that the disease was of a non-contagious character, served to allay a great deal of excitement among the farmers in every section of the State. All this is but natural, for had it proved to have been a contagious disease, it would have affected the material interest of a large class of our population; and it was but a simple act of justice to our agriculturalists to promptly and intelligently meet such an emergency. But while I claim to have as much sympathy for the welfare of the lower animals as any one, and would be glad to insure them at all times the kindest treatment and the best of care in all their conditions, I must admit that under similar circumstances I should like to see the same spirit prevail in regard to the human race, so that when epidemics predominate we could appeal to the strong arm of the law for

a commission, and call to our aid expert knowledge in the investigation into the cause and effect of the disease.

At the same time this investigation was being carried on at Haverhill, backed by the statute, and encouraged by a strong board of men, who are ever on the alert to develop and foster any measures that will aid and sustain our agricultural friends, an epidemic of diphtheria was prevailing in Franconia, and adjoining towns in the same county (and not more than twenty miles distant), of so malignant a character, that in twenty-seven cases occurring between December 11, 1879, and January 20, 1880, there were seventeen deaths, or a fraction over sixty-five per cent. of the whole number taken ill. Of course there was no investigation by the State authority, for with all our talk of equality, our bill of civil rights, our glorious constitution, our compiled statutes and pamphlet laws, that require the eminent services of more than three hundred of our representative men, not including the third house, from four to eight weeks to remodel every two years, there is no authority for the State to grant to suffering humanity the aid and assistance that can be afforded to the brute creation. The local physician must bring to his aid such resources as best he can, and may, in extreme circumstances, invoke the help of charity for the destitute and improvident; but he must not expect any such assistance as would be freely accorded to a herd of cattle suffering under similar circumstances. Is there any reason for the statute protection of the lower animals and not at the same time make some provision for the benefit of the human race? It is true, a herd of cattle represent a pecuniary value; it can be estimated in dollars and cents; and a contagious disease, spreading from herd to herd, would in a few months depreciate the taxable property of the State in no inconsiderable degree. Yet the same reasoning holds true of contagious and epidemic diseases among men, women, and children. For not only does death deprive the State of the working capital that the decedent represented, but, during the course of the disease, the productive force of others is paralyzed, as the energies of a given population are devoted to the care of the sick and suffering.

It may be quite impossible to place a monetary value upon human life in all its conditions, as can be done with animals, or to

more than approximate the great loss to the State that is entailed by a severe epidemic. Still the fact is pertinent to any one who has had an experience with a few cases of small-pox in a country village, for he can appreciate the loss to the business of the place by reason of trade being suspended, and from mills and shops standing idle, because those not ill turned their backs upon the infected place, while those ill were not only rendered non-productive, but the town had to be taxed for their care and support.

It has been estimated that the loss to the country by reason of the epidemic of yellow fever, in 1879, would almost balance the national debt, and that too without taking into consideration the amount of working capital represented in the victims of a disease the mortality of which was almost thirty three per cent. of all that were taken ill.

Now while such estimates may be considered somewhat problematical, the statistics of the business done on the principal lines of travel in the Mississippi valley, during the years 1879 and 1880, show conclusively that the commercial community alone of that section of the country can afford to be taxed heavily to support the National Board of Health, providing that by giving it that support they can be granted that immunity from pestilence that was secured them during the summer of 1880. The direful influence of the epidemic of 1879 was felt directly in that particular section, yet the whole country was indirectly affected for several months, and contributions of money and supplies were offered and accepted from every State in the Union. It may be asked: Has the State the right to exact such legislation as will provide for its inhabitants the protective power of preventive medicine?

It has not been questioned, so far as I can learn, but that the laws to protect cattle, establish a board of agriculture, commissioners of insurance, education, and fisheries, are in perfect accord with the constitution and our bill of civil rights. Neither has laws to suppress intemperance, prevent the destruction of birds, or protection of fish in our inland waters been declared unconstitutional, for the simple reason that the public good required such enactments to develop the best interests of the State.

The subject is again before the legislature, and the question arises: Shall we, as a profession, urge the enactment of a law that shall establish a Board of Health,—shall we personally and collectively labor for the best interests of the State, and that too when, as a class, the profession will be the least benefitted by the adoption of a Board of Health, with the power to investigate into the causes and conditions to be found where epidemics prevail? This is the question that now confronts us as professional men; and no language of mine can so fittingly define our position before the public as the following quotation from an address of Dr. D. B. St. John Roosa, before the New York State Medical Society, in which he says:—

"Physicians are very largely regarded as fit only for the necessary, but narrow walk of their calling,—in prescribing for disease that has already broken out, and for taking charge of accidents which have already occurred. Preventive medicine, which you and I are most anxious about, is not fully appreciated by our lawmakers.

"A physician is often considered as a kind of fire extinguisher, to be sent for in time of conflagration, but as rather a useless member of the body politic when there is no actual crisis. We are not singular in being thus unappreciated. Lawyers are the most valuable and the most occupied in the prevention of litigation; soldiers are chiefly useful to avert war; and yet advocates and soldiers are very often regarded as of no use except in the court-room and on the battle-field. To think in this way is to wholly misunderstand the work of the professions. There is a kind of exultation in the remark that a physician has not made a professional visit to the household during the year. So far as immunity from actual disease goes, this delight is as proper as it is natural; but many a man and woman who smile at the idea of medical advice are walking surely to the edge of a precipice from which sound council might keep them. The physician should have the same prerogative in the State as in the family, and no man can be properly said to be a conscientious physician who does not, if allowed, have a general, vigilant, but not impertinent oversight of the hygienic arrangements of the household of which he is the sanitary inspector and adviser.

"There should be a board of health in every county and in every town, and this board should have no man upon it who has not a medical, scientific, or legal education. Not a school-house, not a jail, not a hospital, not a sewer, should be built unless competent sanitary advice, with power to enforce it, be given."

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"Here is room for reform. Here is work for the closing years of the nineteenth century. What a change in public sentiment is to be made to bring about a proper state of things. And yet how necessary! In one of the most beautiful hill regions of this country, or the world,—in a spot where the sunrise and the sunset are such as must shine upon the delectable mountains,—a place where the mists that roll away before the sunlight disclose green, forest-covered mountain-tops that are the glory of the land,—in a spot where the water leaps clear as crystal in cascade and water-fall, or meanders along the valley in the placid brook,—man had so far neglected the necessary hygienic arrangements that the foulest and deadliest materials at one time contaminated the water and the air, and with this brought disease and death. The hotels were closed, their visitors scattered, some of them dying, however, before the source of the evil was detected. Nor is this a solitary instance. It is only a specimen of what is constantly occurring."

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"How can we hasten the day? It is a mistake of the poets that a good cause must certainly prevail.

"Many an honest and wise effort for the advancement of the human race has been strangled in the hour of its birth. Many a persecution has successfully stamped out a growing crop that promised a blessing to his time, and has left only blood and desolation in the mark of an iron heel. However good a cause, it needs advocates and an impartial judge."

* * * * * * * * * * * *

"Two things must be earnestly seen to by us, if we will hasten the day when the medical profession shall assume its true relations to the State. They are unity of action, and a jealous regard for our reputation as a profession.

"In one of the conflicts of opinion in the medical profession that so often occur in all large bodies, an astute and experienced lay-

man of New York remarked to a medical man who wished to secure his influence on one of the sides that had been formed, 'If the gentlemen of your profession could simply agree with each other you could rule the city.' It is certainly true that if on the sanitary and medico-legal questions of the day we were united, we could accomplish in a few years that which, with our present mode of action, will require decades. When Benjamin Franklin was endeavoring to rouse the colonies to resistance to the exactions of Great Britain, he circulated among the doubting and divided patriots an emblem of a serpent cut into thirteen parts, and accompanying it the motto, 'Join or die.'

"Now, whether we are dissevered or united, we shall still exist as a profession. So long as man is subject to accident and disease we shall form an integral part of the commonwealth, but the prominence and proportions of that part will depend upon our individual integrity, our wise deliberations when assembled in council, and our unity in action when our deliberations have closed."

If we would become a power within the State, we must unitedly present an unbroken front, never allowing an inordinate desire for personal achievements to overcome our desire to promote the welfare of the noble profession we represent. Personal agrandizement must give way to the general advancement of the science of medicine. We must zealously guard the honor of all, if we would expect the public to honor us. Then we can meet on common ground the representatives of other avocations and ask, without dissimilation, that our rights and privileges be recognized by the State. We may claim all this without any feeling that we were asking special favors, for no other class of the body politic are so often called upon for gratuitous services in which the courtesy and favor is so soon forgotten.

Assuming that the profession have a duty to perform, it becomes us, as conservators of the life and health of the public, to mitigate, so far as possible, the evils of sickness, and actuated by the universal code of "doing unto others as we would have them do unto us," ever seek to point out the way, develop the understanding of the people, and unfold the natural design of preventive medicine, to secure to the people "life, liberty, and the pursuit of happiness," which is a principle of government older than the constitution, and

as such it was embodied into the first record of our national existence.

Hon. Erastus Brooks of New York, says of the profession: "To you belongs the more important work which may be presented, in the three aspects of reducing the mortality of the people at large, of saving the people from physical pain, and curing the sick." "If to do all this is not to make 'a voyage of discovery' and 'a circumnavigation of charity,' then no such voyage can be taken in the journey of life." "I can recall no work of equal value, nor any kind of labor calculated to promote so much human happiness."

Then it becomes us to work together for a common good, to move forward with a perfect front, shoulder to shoulder, like a line of battle, never wavering in our position, and, having perfect faith in the justice of our cause, we should labor as one man to bring about a result that is of so much public importance. Let us mentally resolve ourselves into a "committee of the whole," and inviting every intelligent public spirited man to join us in advancing the interests of public health of the State, labor earnestly to place our commonwealth in the catalogue of States that have enacted laws for the advancement of preventive medicine.

[NOTE. It is a pleasure to be able to announce to the members of the Society, and the profession, that the legislature of 188[illegible] passed an "Act to establish a State Board of Health." The Board as constituted, have organized, and consists of Governor Charles H. Bell, Finance and Executive Officer, and Attorney-General M. W. Tappan, Committee on Legislation and Legal Questions; Hon. James A. Weston, Sanitary Engineer, Dr. G. P. Conn, Concord, President, Dr. I. A. Watson, Concord, Secretary, and Dr. Carl H. Horsch, Dover, Committee on Hygiene.]

REPORT ON SURGERY.

BY A. H. CROSBY, M. D.

Is there anything new under the sun? Solomon, some years back, decided the question in the negative, and the continual changes in our armamentarium,—both medical and surgical,—leads one to believe he was right. There is, and has been, a constant taking up and laying down of medicines, means, and appliances, which must be bewildering to the neophyte who in the early days of his pupilage takes Eberle from his preceptor's library and compares it with Bartholow and Ringer. And yet that young man, ten years hence, may, and probably will, fail entirely to relieve a case of dropsy with the jaborandi, or broom top, or whatever may be the favorite diuretic of the day, and as a last resort will prescribe Eberle's old mixture, greatly to the relief of the patient's ascites and his own nerve centres.

As in medicine, so in surgery, old things become new and the recent is discarded. A score of years since not even a fiddler could have imagined that his favorite catgut would be in demand as a ligature or suture, and yet the very earliest surgical thread used was made from the sinews and tendons of animals. It is man's emergency that stimulates his inventive powers. The earlier surgeons found in these threads made of tendons a material that would not yield, and required no after care, as they were absorbed in the healing of the wound in which they were used. In the June number of the reprint of the *London Lancet*, I see that Mr. McClure, an English surgeon, has successfully utilized the tendon of the kangaroo for this purpose, having used it as a ligature in two cases of ligature of carotid and one of the innominate.

It was applied as a ribbon, rather than a thread, and was absorbed very slowly.

Long before the aspirator was known in its present shape, an ingenious Vermont surgeon found himself unable to evacuate a distended pleura in a case of empyema. The dense, viscous fluid would not run through the canula. In this emergency he attached the tube of a Davidson syringe to the mouth of the canula in such a manner as to get an exhaust, and the problem was solved. The pus was evacuated, fresh water pumped in and withdrawn, and the patient received a new lease of life. Several years afterwards Dieulafoy, of Paris, gave to the profession his invaluable invention, the aspirator. Our Vermont friend made the same discovery, but did not appreciate its value. As it were, he stubbed his toe over the invention; but either he was too modest to see its value, because it was his, or else he carried his head so high that he overlooked it.

I have often heard my father tell of an early experiment he made in the administration of ether. It must have been as early as 1820, or 1821, that he and a fellow student returned from lectures at Hanover to his father's residence in Gilmanton, where the late Gen. Charles H. Peaslee was then reading law. The two medical students and the law student were very intimate, the latter passing a good deal of time in my grandfather's office. Upon one occasion the subject of laughing gas was under discussion, when my father remarked, that Professor Hale, the instructor in chemistry, had stated that the fumes of sulphuric ether would make a man as drunk as the nitrous oxide gas. Young Peaslee at once offered to inhale it and test the truth of the professor's statement. It was administered from the bottle itself, and the victim of scientific experiment soon passed through all the stages, so well known to us now, into complete anesthesia. The two medical students, thoroughly frightened, removed the insensible man to the outer air and worked upon him vigorously until he recovered consciousness. Instead of recognizing and announcing this blessed boon to humanity, they buried it deep in a well, for twenty-five years, by swearing each other to eternal secrecy as to what had happened. Another fearful stumble over the threshold of a great truth.

As early as the middle of the fifteenth century, Fernel, of France, wrote a treatise, in seven books, upon therapeutics, based upon the doctrine of contrarieties in medicine, laying down as an axiom: "Every disease must be combated by contrary remedies." He argued that the remedy must drive the disease. Now what drives, acts violently; that which is violent, is in opposition; therefore, the remedy is always opposed to the disease. Long before Hahneman's time this fallacy was exploded, and it was reserved for him to promulgate that equally absurd dogma of similars,—like curing like. Whether the existing fallacy dies a natural death or is crowded out by a revival of the old theory of opposites, time only can tell.

Ambrose Parè, in 1536, made a bold innovation when he discarded the cautery for the relief of hemorrhage after amputation, and for the first time used the ligature. The victim, a prominent French general, publicly thanked him, and said he actually enjoyed the cutting and sawing, as he could give his whole attention to it, undisturbed by the sight and fear of that infernal red-hot iron. But that same red-hot iron has, after three hundred years, floated to the surface again, and our best ovariotomists say they feel much safer when they have cauterized the pedicle. Hippocrates taught the use of the actual cautery for the removal of nasal polypus. Twisting and tearing with forceps superseded that, but now the thermo-cautery has been given to the profession, and again the victim of nasal polypus is saved from the pangs, pains, and profanity attendant upon the use of those awful twisting forceps. Just here I would like to say a word for the benefit of our younger brethren, and that is that nasal polypi may be treated successfully without the thermo-cautery. A few drops of strong acetic acid injected once, twice, or three times, with a hypodemic syringe into the polypus will cause its death in a few days, when it may be removed with forceps with perfect ease. If there is a cluster of them, treat each one, as it descends into view, in the same manner. Tincture of iodine, carbolic acid, chloride of zinc, and hydrarg bichlorid, with a saturated solution of muriate of ammonia, have all been successfully used in this manner for the cure of polypus. One more instance to prove the wisdom of Solomon and I pass to more practical matters. It is a singular fact that the operation of

rhinoplasty, or the reconstruction of the whole or part of the nose, was known and practiced successfully by a single family of surgeons, in Sicily, as early as 1442. The skin was always taken from the arm and never from the forehead. Notwithstanding the undoubted merit of the operation it fell into disuse, and was not heard of again until the latter part of the last century. Now again, as in the fifteenth century, it is a recognized and standard operation in surgery.

A few minutes ago I alluded to catgut as a material for ligatures and sutures, and as this material has been used more or less within the past decade, it seems proper to allude to it in a general report on surgical appliances. It is prepared from the ordinary fiddle-string,—the smallest, or E string, being generally used. For sutures, indeed, it is impossible to use a larger thread, as it cannot be passed through the eye of an ordinary surgeon's needle. The same is true of what is called the glover's needle, which I now use to the entire exclusion of the curved needle, whenever it is possible to do so. Any one who has pricked his fingers and lost his temper in attempting to thrust a dull, curved needle through that densest of tissues, the human skin, can appreciate the comfort of using one of these triple-edged, sharp-pointed needles, which are especially designed to penetrate just such tissues. These needles can be found in any harness shop, and can be fitted for use upon a smooth whetstone to remove the feather edge upon the cutting surfaes.

The catgut is prepared for use by soaking it in a pickle of one part carbolic acid and nine parts of sweet oil. Thus prepared, it is a safe non-irritating substance, that may be cut short, when used as a ligature, and left within a closed wound. But there is a danger in this procedure, which should be borne in mind. Being an animal tissue, it may dissolve or be absorbed too soon, and if used to ligate a large vessel we may be called too late to check a secondary hemorrhage. Notwithstanding this danger, I was surprised to see that Bryant, in his last edition, gives it the preference over silk or hemp, for the reason that the latter require an ulcerative process for their discharge. When used as sutures, while there is no danger, there is the risk of great annoyance to surgeon and patient from too rapid absorption, and consequently a gaping open of wounds that require support for a longer period.

Early in November, three years ago, I was called from my bed, about five A. M., to go about thirty miles into the country to see a young lady who had met with a very unfortunate accident. She was visiting a brother, a young farmer, who had injured his leg to that extent that he was not able to climb the ladder to the upper scaffold and throw down the coarse hay for the young stock. The sister, a robust and very handsome girl of eighteen, volunteered to perform this duty for him, and, having accomplished it, threw the pitchfork down into a bay, sixteen or seventeen feet below her, and jumped down after it. Unfortunately, the tines of the fork penetrated the hay in such a way that the handle stood erect, and the girl alighted upon it, the handle passing under her clothing and striking upon the anterior part of the perinæum, rupturing that badly, and passing in seven inches, until it was stopped by the promontory of the sacrum. Here she was suspended, or rather supported, like Mahomet's coffin, between heaven and earth. For an instant she was thus poised, then with a superhuman effort she threw herself upon her back, dragging the fork from the hay by the sheer force of her own weight. With great difficulty she pulled the handle from the tissues, where it was imbedded, and walked into the house and into her own room, where she found that the seat of a new and very stout pair of cotton flannel drawers had been driven into the wound, invaginated upon the fork handle, and that there it still remained. Calling her sister to her assistance, the two managed, with great difficulty, to pull the cloth from the wound. Considerable hemorrhage followed, and a physician was sent for, who very promptly relieved the bleeding and the pain, but sent for me to assist him in restoring the lacerated partition. We reached the patient about noon of the day following the accident, and at once put her fully under the influence of ether. An examination revealed the fact that the sphincters were torn badly, and the perinæum practically destroyed, and the two passages made one for a considerable distance. Having had no control of the sphincters since the accident, of course it was necessary, first, to cleanse the wound thoroughly, and here began our troubles. It was just at the close of harvest time, and the patient had evidently been indulging in apples to an unlimited extent, for the wound was full of apple seeds. We

would wash and pick away at them until the parts were clean, when down would come another instalment to plague the doctor and delay the operation. Finally we gave her several enemata of hot water, each one bringing its quota—large ones—of apple seeds, and at last the coast was clear. Commencing at the distal extremity of the rent, catgut sutures were introduced very near together, until some six or seven had been placed. Of course in this locality the large curved needle was used. The sutures were then tied strongly in the order in which they were inserted, and the ends cut short. A full dose of crude opium was administered to hold the bowels in check. The limbs were flexed over pillows and tied together, arrangements made for catheterism, when necessary, and the patient was left in the care of an intelligent nurse, aided by the *vix medicatrix naturæ*. Three months afterwards I examined the patient and found that union had occurred through nearly the whole extent of the wound, one suture only, and that the last and outside one, having been absorbed too soon. The action of the sphincters, however, was and is perfect. The surfaces should be pared and a new stitch introduced, but as she suffers no annoyance from it now, she has thus far failed to put in an appearance for another operation. In this case, and similar ones, the carbolated catgut would be invaluable, could it be trusted. About that time I used it in two amputations of the breast, and one of the leg, as a suture only, as I have never dared ligate a large artery with it. In the case of one breast and the leg, the sutures held until union had occurred, but in one of the breasts the attending physician was much troubled by their rapid absorption. The same was true in one case of strangulated hernia, where I used the catgut. The entire wound gaped open in four days, to the intense disgust of the doctor in charge.

The question that suggests itself to us country doctors as often as any is: What material shall we use for making splints,—shall we invest nearly one hundred dollars in a set of Rowe's splints, or shall we resort to plaster, pasteboard, and the like? As far as my own limited practice bears upon the solution of this inquiry, I can say, decidedly, that I prefer the home-made article to any of those furnished by the instrument makers. The only exceptions I would make, are the carved splint for the dorsum of the hand and

the arm, and the admirable splint of Dr. Carr for Colles' fracture. Dr. Gurdon Buck took a long step ahead when he attached a weight to the foot and leg of the injured side, and dispensed with both side and bed splints; but Hamilton took a longer one when he threw away the counter extending perineal band, and raised the foot of the bed eight or ten inches, thus making the weight of the body the counter extending force.

The thigh splint, or rather the dressing for a fractured thigh, described in the last edition of Hamilton's Surgery, I believe to be the best and safest method ever used, especially as it gives the patient no pain and but little inconvenience. I have thus far used it three times in my own practice, and have seen it used once in the practice of one of my neighbors. One of these cases is still under treatment, while the rest got up with no appreciable shortening.

[Since the above was written, the patient alluded to has recovered, and the result of treatment upon Hamilton's splint was remarkably good. The subject fell about ten feet into a newly excavated cellar, filled with rough, broken stone. His left side struck upon a stone, fracturing the femur twice and the fibula once, near the external malleolar. The upper fracture was very oblique, terminating at the lesser trochanter; while the lower break was two and one half inches above the patella, and was perfectly transverse. The extension was produced by a fourteen pound weight, with the foot of the bed elevated about ten inches. The recovery was perfect, and no shortening of the limb followed,—the best possible endorsement of Hamilton's splint.]

For the treatment of fractures below the knee, we have an endless variety of material that can be utilized in making stiff or plastic splints. Beginning with the well-known flour paste and white of egg, we can avail ourselves of plaster of paris, glue, starch, or the two latter mixed, which is preferable, paraffine, dextrine, and pasteboard. The household, or neighborhood, that cannot furnish one or more of these articles is poor indeed; and so, when called to dress a fracture, we are not compelled to carry a wagon load of apparatus.

In the use of plaster, the old Bavarian splint still retains its popularity as a safe and well-fitting splint, but I have recently

seen and applied a much simpler form of plaster side splint at the suggestion of my friend, Dr. Stillings, who first described it to me. It consists simply of a quadruple fold of cotton cloth, folded at such a width that when applied to the leg, by placing the foot in the middle of the cloth and bringing the long ends up each side, the edges will about touch at the shin and calf. When fitted to the leg, remove it and rub dry plaster into all the folds. Wet it by sprinkling, and apply to leg as before, covering it rapidly with a roller bandage. When dry, the roller may be removed, and the splint kept in place by three or four strips of cloth tied around the leg, over the splint. This holds the broken bones in place, and allows the air to circulate freely about the limb.

In the fractured legs of children, I prefer the paraffine. This substance, which is something like hard tallow, is melted and then allowed to cool a little. The leg is enveloped neatly in a roller bandage, from the foot to the knee. A layer of paraffine is painted on, and then another roller applied. Four thicknesses of the cloth makes a sufficiently stout splint, and the last roller receives an extra coat of the paraffine, which is smoothed and moulded with the hand, so that, when finished, the leg looks like a gigantic candle waiting only to be lighted.

I have used the dextrine considerably, but mostly in cases of sprained ankle, where it was necessary to support the joint during convalescence. For this purpose it is admirable, being light and strong; but the objection to it exists in the difficulty of getting a good solution of the drug, which, as you know, is simply burned starch. It must first be rubbed up with spirits of camphor to the consistency of good molasses; then water must be added, almost guttatim, and the stirring continued until it first thickens up and then re-dissolves and again becomes a syrupy liquid. It is then applied with a brush upon roller bandages to the required thickness, say three or four. It takes at least twelve hours for it to dry, under the most favorable circumstances, which is another objection to its use. Equal parts of good glue and starch, dissolved separately, and mixed when wanted for use, gives us a capital splint, especially when used instead of plaster to stiffen the Bavarian splint. This dries slowly, but lasts an indefinite time.

All these materials are valuable, and at times indispensable; but, after all, pasteboard is the main reliance, or sheet-anchor, of the country surgeon. It can be found in every household, in the shape of old book and atlas covers; in every country store and tailor's shop, for the best pasteboard for splint making is that upon which German and French broadcloth comes wrapped; in fact, it is ubiquitous, and as useful as it is common. It needs only to be thoroughly soaked in warm water, covered with cotton cloth upon both sides, applied to the limb, and held in place by a roller until it dries. Then spring it off, trim it, cover and pad it as you please, and your splint is complete.

In fractures below the knee it is seldom that any extension is required, some one of the splints alluded to being usually sufficient to retain the fragments in apposition; but occasionally we get a compound, or a double fracture, that renders some extension indispensable. In these cases I go back to the old fracture box, with hinged sides, and slots cut through the footboard for the attachment of the free ends of the adhesive straps. Four months since a shop hand upon the Northern Railroad, in this city, in helping about the yard, got both legs caught between some timber upon an open car and a door. The right leg (both bones) was broken just above the ankle, while the left was broken just below the tuberosity of the tibia,—both bones being fractured transversely,—and three inches or more below, in the middle of the shin, there was a compound comminuted fracture of both bones again. The bones were extensively crushed, and the soft parts badly lacerated. Unfortunately there was an opening upon the calf of the leg, as well as upon the anterior surface, so I was not able to put on a plaster splint with a fenestrum, and I accordingly placed it in a fracture box, upon a bran bag, and tried to keep the limb in place by the lateral pressure of smaller bran bags and cotton. Both wounds discharged so freely that it was necessary to change the dressings often, and when the posterior wound had healed the limb was manifestly bent to one side. In this emergency the limb was forcibly bent into a straight position, the callous being well formed, and the side splint,—already described,—placed upon it. This was removed in three weeks, and the limb found to be straight. There is a small, bony lump upon the

anterior surface of the leg, where the bones were so comminuted that they could not be manipulated into place. As the patient was seventy-five years old, and the chances of giving him a good limb were so small, I know I should have been justified in amputating above the knee, and I *think* he *would* have suffered amputation had he lived in a large city and been carried to a hospital. *Public opinion*, if nothing else, forces us to be very conservative in surgical practice in country towns. One of the rather rare operations in surgery is amputation of the shoulder with disarticulation; and as one has recently occurred in my practice, I beg the indulgence of the Society while I read a brief report of the same. The operation, as described in the books, is said to be very simple, and yet the percentage of deaths following it is variously given as from thirty-nine to fifty per cent. Gross gives this last estimate, and it is probably very nearly correct.

The ninth day of last February, a young man, a brakeman upon the Concord Railroad, was run over by the cars at Nashua. He was standing near the rear platform of the last car, which was just ready to start, when a freight train backed down upon a parallel track, striking him in such a way that he was thrown under the wheels, with his right arm extended. The body of the wheel crushed the arm just below the axilla, while the flange passed over the top of the shoulder, near the neck, bruising and contusing the soft parts very badly. He had the presence of mind to pull his arm from the rail before the forward trucks could reach him, caught hold of the railing of his own car, which was then in motion, pulled himself upon the platform, walked through two passenger cars into the smoking car, where he sat down and notified the conductor of his injury. As he absolutely refused to stop in Nashua, he was brought to his home in this city, arriving here just before dark. I called Drs. Russell, Conn, and Stillings to my assistance, and proceeded to examine the arm. It was evident that the humerus was badly comminuted; but as the skin was only abrased, and there was no hemorrhage, it was decided to apply heat during the night, and be guided by his condition in the morning whether to amputate or make a resection. At nine o'clock, the next morning, the same medical gentlemen met me at the residence of the patient, and very kindly and skilfully aided

me in the operation which followed. The arm was very black, from the hand up, and with absolutely no radial or ulna pulse. Above the elbow the arm was swollen and distended from extravasated blood. The narrow strap of an Esmarch's bandage was wound around the shoulder and held by Dr. Stillings, who was also provided with a door-key, with the handle covered with a wet cloth, in case it should become necessary to compress the subclavian. I began by making an explorative incision from the top of the shoulder down its outer surface some six inches in order to ascertain the extent of the injury before removing the shoulder. The muscles were completely lacerated and crushed, and the cellular tissue black with effused blood as far as could be seen. While dissecting away the muscles just inside the acromion process, I suddenly cut an artery, which threw a very large and strong jet. I seized it with my fingers, while Dr. Conn passed a ligature around and secured it. To our astonishment it proved to be the axillary artery, which had been torn entirely off and pushed thus far out of place by the swelling of the lacerated muscles. A spontaneous clot had formed, at least three fourths of an inch long, and I had simply tapped the vessel just inside this clot. Had it not been thus out of place I should not have cut it, and no ligature would have been necessary, for the clot was very firm and hard. The dissection and cutting of transverse flaps was continued with the scalpel, and the bone sawed just below its head. After the wound was cleansed it was evident that we could trust but little to our flaps, as the skin was so badly contused. The head of the bone was then removed from its socket, and the wound closed with plenty of sutures. The result proved the wisdom of our decision to remove the head of the humerus, for not only did we lose the entire flaps on both sides, but several abscesses formed about the root of the neck, which found exit both over and under the acromion process. After the skin had all sloughed away the wound filled rapidly by granulation, the new skin keeping up a constant and uninterrupted growth. The reason sometimes given for leaving the head of the bone in situ is to give greater prominence to the shoulder, so that the coat sleeve may be kept in place; and secondly, the danger that the glenoid cavity will not

fill with healthy granulations. In this case, certainly, there was no force in either of these reasons, for he wears his coat almost as comfortably as ever, and the synovial and cartilaginous lining of the glanoid cavity were both exfoliated in due time and the space filled with healthy granulations, which are now covered with true skin.

Having made an allusion to hernia, I am reminded of a method of reducing strangulated hernia, recommended and endorsed by the late Professor E. E. Phelps, of Dartmouth College. A few years before his death he was present at a meeting of this Society where something was said about hernia. I think some one was urging the use of depressants, such as antimony, &c., instead of continued taxis, when Professor Phelps remarked that he had sometimes succeeded in effecting prompt reduction by the internal administration of strong coffee, and advised physicians to give it a thorough trial. I have used it several times, and the result has been so favorable that I deem it worth putting upon record. I have found that it succeeds best in cases of old, long-standing inguinal hernia, —the larger the better. The following is a typical case :—

Early last month I was called to see J. M., a very hard working painter, aged about sixty years. He has, and for many years has had an enormous hernia, which at times drops into the scrotum and becomes partially strangulated by the presence of gas and fecal matter. Usually the patient detects it, and reduces it by taxis with little difficulty. Sometimes, however, he fails in his efforts and is obliged to call in his physician. Such was the case at this visit. The gut had been down since early morning, and he had been manipulating it all day, until it had become extremely sensitive, and he was suffering intensely. The tumor was very large, certainly as large as a child's head at the age of a year, while the scrotum was tense and hard. He said he could not endure any more manipulation, and I accordingly directed his wife to make a pint of the strongest coffee that could be brewed. She used a teacup of strong Java coffee to a pint of boiling water, and gave it to him, as directed, without sugar or milk, and to be taken as rapidly as possible. He was half an hour drinking it, and then he fell into a quiet, undisturbed sleep, the first he had enjoyed since the previous night. I left the house feeling that I should be

obliged to operate in the morning, and rather dreading the job, as the hernia was so large and the patient not in the best condition. I heard nothing from him during the night, and made my visit at the usual hour the next morning, when I found the patient sitting up and perfectly comfortable, the hernia reduced and the soreness much abated. He told me that he slept for two hours after taking the coffee, and was awakened by a peculiar sensation in the affected parts, and upon examination found that the hernia was completely reduced. My limited experience in the use of this agent proves that the coffee should be of quadruple strength, and should be taken hot, and as rapidly as possible.

It is difficult to understand how coffee produces this peculiar effect, as it has been variously described as a mild laxative, an anti-malarial, and antihypnotic or nerve stimulant. Trousseau, in the last edition of his "Therapeutics," says: "The property which coffee possesses of causing intestinal contractions has been put to use for aiding the reduction of strangulated hernia, and the effect has been such that, in certain cases, hernias which taxis could not reduce and which were about to be operated upon, were reduced spontaneously." He adds that it ought always to be tried before kelotomy is decided upon, in which opinion I most fully agree.

The treatment of burns and scalds has undergone considerable modification since a dentist in Boston suggested the bi-carbonate of soda as a topical application. I have used this in my practice for at least five years, and have no wish to go back to the filthy carron oil and all its train of greasy abominations. The soda should be applied very thickly over the burn, and covered with a moistened bandage, which keeps the salt in place, and hastens and intensifies the action of the soda. If the soda is not at hand, I should use the linseed oil and lime water, although I prefer freshly ground white paint, if it can be obtained. I have seen better results follow the use of the paint than from any application, except the soda. And even with the soda there seemed to be a greater amount of cicatricial tissue, and that firmer in density than where the paint was used. The soda has the advantage of instantly relieving the pain and smarting, while with the other remedies this is a slower process. This renders it invaluable in the treatment of

children, for with it we can dispense with the use of opium in all forms.

In closing this somewhat desultory report, I trust I may render some of you a service by reminding you of one of the dangers attending the administration of ether; a danger which, to my mind, until lately, was so remote and improbable, that I had come to regard Dr. Jackson's warning as a bugbear,—a cry of wolf, when there was no wolf. I allude to the sudden occurrence of syncope, when the patient is under the influence of sulphuric ether. In Dr. Jackson's little work upon anesthesia, he gives two cases of death from syncope, and urges the greatest caution in its administration, and the closest watching of the heart's action. He also advises the surgeon to be provided with spirits of ammonia, cold water, and, if possible, a battery, whenever he administers this or any other anesthetic. Fortunately, these cases are very rare, but when it does occur, the scare is a very big one, and one that exhausts your phosphorus very rapidly. Such a one occurred to me last autumn, when, with the assistance of a medical friend, I was about to remove a small epithelioma of the lip. He had inhaled the ether quietly, and when I was just about to remove the growth his face and lips suddenly became cyanotic, the lower jaw dropped, the eyelids were partially opened, the eyes rolled upward, and the breathing ceased completely. He was lying upon a reclining chair, fortunately, and while I, rolling him upon his side, pulled his tongue forward and made interrupted pressure against his chest, my friend assisted in the efforts at artificial respiration and at the same time threw cold water into his face in sudden and frequent dashes. You can, perhaps, imagine our delight when the patient gasped and finally began to breathe regularly. The syncope might have lasted thirty or forty seconds, but it seemed like an hour at least. You have all been accustomed to use ether so freely, and with such perfect impunity, that perhaps even this experience will not frighten you; but it has certainly convinced *me* that (as the detective police say of some suspected person) ether "will *bear watching*."

CASES OF MALIGNANT DISEASE, WITH A REPORT ON THE USE OF THE DERMAL CURETTE.

FURNISHED FOR THE REPORT ON SURGERY, BY F. A. STILLINGS, M. D., CONCORD.

CASE I; M. S.; FEMALE; WHITE; AGE 41.

Sallow and emaciated. Saw her first in August, 1879. She was suffering with an acute pain in left leg, radiating from the centre of calf to heel and bottom of foot, and shooting up towards the body. The leg was swollen, tense, and glistening, and in a semi-flexed condition all the time. She was unable to lie down as the pain was thereby increased, and could only secure a little sleep in the sitting posture. She had been treated for two years by different physicians for different diseases, among which were "abscess," "bone-sore," and "articular rheumatism."

On careful examination, a small tumor was discovered lying under the edge of the gastrocuemius, and over the track of the peroneal nerve.

An attempt was made to reduce the swelling of limb by use of the rubber bandage, but this failed entirely, and the clay dressing was substituted, with the result of bringing the leg down to its normal size, and leaving the tumor well defined. The clay used was the tenacious blue clay, found at some depth under the surface, in swamps; but the common brick clay answers almost as good a purpose. It is mixed with water to the proper consistency, and the limb completely enveloped in it. In many cases it reduces swelling and œdema more rapidly than the rubber bandage, and is preferable for other reasons that will readily suggest themselves.

After getting the patient into as good condition as possible, assisted by Drs. Crosby and Gordon, I proceeded to remove the tumor. On getting down to its attachments the peroneal nerve was found to be firmly bound to it, the sheath of the nerve spreading over it much as in a neuroma. This was dissected out carefully and the tumor removed. The nerve was then thoroughly stretched and the wound put up with simple dressing. The leg healed rapidly, and in a short time she was able to go about with a cane, nothing showing over the site of the tumor but a straight, smooth cicatrix.

Three months after the operation, and five or six weeks after she had begun to walk about, a point the size of a pea appeared in the centre of the cicatrix, a smooth shiny body, as though some foreign substance was working its way out. I made a little incision in the centre of it and turned out two or three drachms of a jelly-like substance which came from deep in the leg. Blood oozed slightly from the cut, which was dressed with a light compress and bandage. In about a week she returned, and I found that in the centre of the wound a fungoid bleeding growth was pushing itself out. The woman was put upon a strong nourishing and stimulating plan of treatment, with the view of amputating above the knee, but instead of improving, the glands in the groin became enlarged, the tumor reappeared and grew rapidly, so that at the end of six weeks it would weigh about six or seven pounds. She lived about five months after the tumor was first removed, and died of exhaustion.

CASE II; J. F.; MALE; AGE, 57; STONE-CUTTER.

Epithelioma covering nearly the whole of the back of the left hand, and extending down upon one finger; there was also a slight epithelial ulceration on the side of nose. He was put under ether, and the whole of the growth removed with the dermal curette, and the wound cauterized with solid nitrate of silver, and then dressed with sweet oil. Five drops of Fowler's solution, three times a day, was given for two months. It was then found that the growth was reappearing in two or three spots, and the curette was again used, this time more care being taken to remove all the

growth. The wound was cauterized and dressed with oil as before, Fowler's solution being continued for about three months. At the end of this time the hand was perfectly well, and it was found that the ulcer upon the nose had also healed under the prolonged use of the arsenic. A year has elapsed and the disease shows no sign of returning, the man being able to work all the time at his trade.

CASE III (seen with Dr. Crosby); MALE; WHITE; AGE, 50; MERCHANT.

This man had fourteen distinct epithelial sores on the face and neck; the whole of the right lower eyelid, and half of the left upper lid was invaded. He was put under ether, and the curette used thoroughly, and the same after treatment pursued as in Case II. The spots healed kindly, and in a few weeks he returned home well, continuing, however, to use the arsenic about three months.

The operation was performed a little more than a year ago, and the patient remained well when last heard from.

CASE IV; M. S.; MALE; IRISH; AGE, 60.

Epithelioma covering left half of lower lip. This was removed with the curette, and the man put under the arsenic treatment. The lip healed readily, and there has been no return of the disease.

The resulting cicatrix, however, was not so good as when an epithelioma on the lip is removed with the knife, the mucous membrane seeming to pucker up and leave little elevated lines.

CASE V (seen with Dr. Crosby); MALE; AMERICAN; AGE, 60.

Epithelioma of lower lip. As Case IV did not show a very handsome cicatrix, it was decided to remove this with the knife. The patient, being unable to take ether, was given nitrous oxide, and Dr. Crosby rapidly split the lip across and removed the growth, saving much more of the lip than could have been done by the V shaped operation.

He was given arsenic for three months, and the lip remains healthy at the end of nine months.

CASE VI (seen with Dr. French of Epsom); CAPT. E.; AMERICAN; AGE, 74.

Carcinoma of antrum. The bones of the left side of face were nearly all destroyed, so that a probe could be readily passed from just below the eye directly into the mouth. As treatment was insisted upon by himself and family, he was allowed to use a paste of dried sulphate of zinc. He lived about eight months from the time his attention was first called to the disease.

CASE VII (seen with Dr. Crosby); M. K.; MALE; AMERICAN; AGE, 70.

Epithelioma of left ear. This was removed with the dermal curette, and the arsenic treatment followed for three months. The patient made a good recovery and remains well at the end of a year.

CASE VIII (seen with Dr. Russell); N. B.; FEMALE; AMERICAN AGE, 65.

Epithelioma of vulva. Removed with knife, and arsenic given Has been no return of the disease.

CASE IX (Reported by Dr. Crosby); MALE; AMERICAN; AGE, 82

Epithelioma of lip. The curette was used in this case, and the hwole of the diseased mass removed. Caustic and oil was applied and the arsenic treatment pursued. Two and one half years have elapsed and there has been no return of the disease.

In using the dermal curette, it is essential to be thorough in the removal of all the diseased tissue, the rule being to scrape as long as anything comes into the spoon. The operator can readily tell

when the diseased mass is removed, as that cuts under the spoon much like cheese, while the healthy tissues do not yield to it, but give a sensation to the hand as though the curette was being drawn over a bundle of tense cords. The operation, up to this point, is frequently a bloody one, but as the nitrate of silver is thrust into the wound the bleeding usually ceases. The caustic pencil should be sharpened and great care taken to thoroughly cauterize every part of the wound; cloths, saturated in pure olive oil, should then be kept on the part till it heals.

The curette has one great advantage. Many people with troubles of this sort have a horror of the knife, which leads them to put off an operation as long as possible; while the curette, being an innocent looking little instrument, they readily submit to its use, and if the growth be small will frequently have it removed without taking ether. After the growth has been removed, Fowler's solution must be persistently followed up, five drop doses, three times a day, from three to six months. If any signs of puffiness about the lids ensue, omit treatment for a week, and then push it again.

A CONTRIBUTION TO THE STUDY OF FRACTURES AND DISLOCATIONS.

FURNISHED FOR THE REPORT ON SURGERY, BY JOHN R. HAM, M. D., DOVER.

During the fifteen years of my practice in Dover, N. H., I have recorded one hundred and eighteen cases of fracture and twenty-nine cases of dislocation which I have treated. They include fractures of the radius, ulna, humerus, scapula, clavicle, astragalus, tibia, fibula, patella, femur, and maxilla; and dislocations of carpus, radius, ulna, humerus, clavicle, inferior maxilla, and vertebra. Other fractures,—of the ribs, cranium, phalanges, metacarpal and metatarsal bones,—have been treated, but are not included in this list.

I find recorded one hundred and eighteen cases of fracture, occurring in one hundred and ten individuals. There have been one hundred and two cases of single fracture, and eight cases in which there were two different fractures. Of course this does not apply to the case where both bones of the leg or forearm are broken. Such cases are counted as a single fracture.

According to frequency, these fractures would be arranged as follows: forearm, thirty-six; leg, twenty-seven; clavicle, seventeen; femur, fourteen; humerus, thirteen; patella, five; superior maxilla, two; inferior maxilla, two; scapula, one; astragalus, one. From this summary, we see that forty-nine fractures were of the upper extremity, and forty-seven of the lower extremity. Of the upper extremity, three fourths were of the forearm; and in the

lower extremity, the fractures of the thigh were to those of the leg, as one to two. There were thirty-four fractures on the right side of the body, forty-two on the left, and forty-two not stated.

Before passing to the different groups of fracture, I would express my regret at the incompleteness of the record I have kept, and my failure, in a large number of cases, to give precisely the most important information: as, for example, the side of the body which sustained injury, the length of the limb before reduction of the fracture (also after treatment), and the average length of treatment.

MORTALITY.

Of the one hundred and ten individuals who have been treated for fracture, none have died. When we consider that eight cases of fracture of the femur occurred in persons aged sixty-two, sixty-four, sixty-six, sixty-six, seventy-two, seventy-four, seventy-six, and eighty-eight years respectively, and that ten cases of fracture of the leg were compound,—one necessitating amputation in the lower third of the thigh,—and that the average of mortality of the compound fracture of the leg is about one in three, we think the result remarkable. There was one death from dislocation of the vertebra.

FRACTURES OF THE FOREARM.

There were thirty-six cases, of which fourteen were males and twenty-two females. Of these cases, ten were on the right side, ten on the left, and sixteen not stated; twenty-three were Americans and thirteen were Irish.

Radius and Ulna. There were six cases, of which three were male and three female. As to location: one was in the upper third, one radius in middle and ulna in upper third, three in the middle third, and one in the lower third. Five were on the right side, and one on the left. One was compound. All were treated with antero-posterior splints.

Radius. There were thirty cases, of which eleven were in males, and nineteen in females; five on the right side, nine on the left, and sixteen not stated. Three of the fractures were in the middle third, and twenty-seven in the lower third. Twenty-

four were of the variety known as Colles' fracture, and in three individuals the Colles' fracture was double. The fractures of the shaft were treated by antero-posterior splints. Colles' fractures were treated, for the most part, by the Carr splint.

HUMERUS.

There were thirteen cases, occurring in twelve individuals. Two of these were compound. All were in males: four right, three left, and six not stated. As to location: three were in the upper third, one at the junction of upper and middle third, six in the middle third, and three in the lower third.

The anatomical neck was broken once, the surgical neck once, and the shaft eleven times. One patient sustained fractures of the surgical neck and of the shaft at the same time. Another sustained fractures of the anatomical neck and of the superior maxilla at the same time.

Six patients were Americans, four Irish, and two French.

Causes: one dynamite explosion; one fall from fence; one fall from tree; one fall in wrestling in bar-room; one of anatomical neck by railroad accident; one by a falling tree; four by being caught by revolving shaft; and three not stated.

In the case of fracture of the anatomical neck, there was a rupture of the capsular ligament, and the rounded articular fragment of the head of the humerus was driven through the rent. The fracture and dislocation of the fragment were not discovered until the swelling subsided, when it was found impossible to reduce the dislocation. The fragment became attached to the shaft of the humerus, on the axillary side, and is now felt as a rounded mass, that rotates with the humerus. The shoulder is somewhat flattened, and the arm is one inch shorter than its fellow. The function of the limb is good. Internal angular splints were used in treating the fractures in the lower third of the humerus.

SCAPULA.

One case of fracture of the neck of the scapula, in a man who was thrown from a carriage and fell on the palm of the hand, with the arm extended.

CLAVICLE.

There were seventeen cases, of which eight were males and nine females; eleven were Americans and six were Irish; six were right, four left, and seven not stated. Three were treated by axillary pad and bandage, and the remainder by adhesive strips (Sayre's method). The average duration of treatment in adult cases, was thirty days.

FEMUR.

There were fourteen cases in all, of which seven were of the neck of the bone; nine were Americans and five were Irish. Of the fractures of the shaft, there were five males and two females: two were of the right side, and five of the left; one was in the upper third of the shaft, four in the middle third, and two in the lower third.

Of the fractures of the neck of this bone, there were three males and four females: one was on the right side, and six on the left; three were impacted, and four were loose fractures.

Causes.—Fracture of shaft: one by fall from load of hay, one by caving in of bank of earth, one by being carried over revolving shaft, one run over by carriage, and three were simple falls. Of the neck of the bone: one was thrown from carriage, one fell from roof of house, and five from simple falls.

The treatment of the fractures of the shaft, and also of the loose fractures of the neck of the bone, has been by raising the foot of the bed; extension, by adhesive strips reaching above the knee, and weight of twelve to sixteen pounds to foot; sand-bags on sides of limb; and in case of fracture of the shaft, short splints at point of fracture.

In one case of fracture of the shaft of the femur, in a child of two years, the patient was placed on his back; the lower limbs were flexed at right angles to the body; and extension, sufficient to raise the buttocks slightly from the bed, was applied in that position to both limbs. In impacted fractures of the neck, the extension should only suffice to keep the limb at rest.

Results. There was eversion, but no shortening, on recovery of the three impacted fractures of the neck of the femur; in the loose fract-

ures of the neck, there was half an inch shortening in one case, three fourths of an inch in each of two cases, and one inch in one case.

In the fractures of the shaft, there was no shortening on recovery in three cases, one half an inch in each of three cases, and three fourths of an inch in one case.

FRACTURES OF THE LEG.

There were twenty-seven cases. Causes: two from kicks in bar-room fights; one from fall from beam in barn; three from falling down stairs; six from being thrown from carriage; one by fall of dry goods box; one by fall of bale of cotton; one by falling of tree; three by falling in wrestling; one in coasting down hill; one by machinery accident; one railroad accident; one by fall of derrick; one (an adult) fell fifteen inches from a hammock, and fractured both bones; one fell forty feet down a perpendicular stone wall, and struck upon a ledge; one fell on sidewalk; one in jumping; and one not stated.

Tibia and Fibula. Of the nineteen cases of fracture of both bones, ten were Americans, seven were Irish, one German, and one Italian; sixteen were males, and three were females; nine were simple, and ten were compound; seven were of the right leg; six of the left; and six not stated. One was located in the upper third of the leg, nine were in the middle third, one tibia in middle and fibula in upper third, and eight in the lower third. One case of compound, comminuted fracture in the upper third, necessitated amputation in the lower third of thigh. Plaster of Paris splints have been used in most cases. In a large number of cases, a straight-back splint, with an immovable foot piece at right angles with it, and two side splints, has been used. With the last splint, it has been my custom to protect the tendon of the heel, by means of a rubber air-cushion placed under it.

Tibia. There were four cases of fracture of this bone, of which all were males; two were Americans, and two Irish; one was of the left side, and three not stated; three were located at the middle third, and one in the upper third. Plaster of Paris splints were used in each case.

Fibula. There were four cases of fracture of this bone: one female, and three males; three Americans, and one Irish; one of right side, three left; all in the lower third.

PATELLA.

There were five cases of fractured patella, and all occurred from muscular contraction. The fragments, at the time of injury, were separated from half an inch to one and one half inches. The fractures were all transverse, and were all situated at the junction of the lower and middle thirds of the bone; all were in males, and the five cases occurred in four individuals; two were Americans, and three were Irish; two of the cases occurred in two brothers; two were on the right side, one left, and two not stated.

One of the fractures occurred from falling in the street, two from springing from a wagon, one from running in a game of ball, and one was a re-fracture from falling down stairs after an interval of seven weeks. The treatment consisted of straight posterior splint, adhesive strips surrounding joint, figure of eight bandage, and elevation of the foot.

In three cases the bond of union was thought to be osseous; in the case of re-fracture, the union was ligamentous, and the fragments were separated one third of an inch, after recovery.

SUPERIOR MAXILLA.

Two cases; both males; both Americans; one caused by kick of horse, and one by railroad accident.

INFERIOR MAXILLA.

Two cases; both males; both Americans; and both compound. One occurred from falling fifty feet down a ledge, and one from a blow with slung shot. Treated by wiring the teeth, and pasteboard splints.

ASTRAGALUS.

One case; in a male; Irish; left side; from falling from a stone wall, forty feet high, and striking on his feet on a ledge of rock. There was a compound fracture of the tibia and fibula, on the opposite side, in this case.

DISLOCATIONS.

There have been twenty-nine dislocations, as follows: humerus, twenty-two; radius and ulna, three; carpus, one; clavicle, one; vertebra, one; and inferior maxilla, one.

Humerus. Fourteen patients sustained dislocations of the humerus once; one patient twice; and one patient six times.

Of the sixteen patients, there were twelve males and four females; Americans, eleven; Irish, five. The bone was luxated downward, or forward, in each case,—the proportion of either form not stated.

In the case of the patient who suffered six dislocations, the accident occurred each time at intervals of about six weeks, from muscular contraction while in an epileptic convulsion. He was a very muscular person, and in no instance was reduction possible until he was etherized.

Radius and Ulna. There were three cases of dislocation of radius and ulna; all were in males; all Americans; and in each case the luxation was backward. The accident occurred, in each case, by falling from a height and striking, with forearm extended, upon the open palm.

Vertebra. One case of dislocation of the vertebra occurred in an American, who, while intoxicated, was overturned in his wagon. The seventh cervical vertebra was luxated forward upon the first dorsal. Paralysis of the lower extremities and bladder followed immediately. Reduction was not effected, the patient being unwilling to take an anesthetic; nor would he allow extension of spinal column, and manipulation, sufficient to reduce it. Death supervened in thirty-six hours, and an autopsy disclosed dislocation without fracture.

Inferior Maxilla. One case; American; male.

Patient said he had taken ether four days previously for the extraction of teeth, and that he had not been able to close his jaws since. He had vomited after the etherization, but the operator (who accompanied him) did not notice any deformity while patient was in the dental office.

Clavicle and Carpus. One of each. That of the clavicle was at the acromial extremity.

PUERPERAL CONVULSIONS.

BY J. W. PARSONS, M. D., PORTSMOUTH.

When I appear before you with a paper upon Puerperal Convulsions, I believe that I can console myself with the assumption that you do not presume that I can offer to you a single original thought on this venerable and much worn topic. Neither can you expect or desire me to go over all the ground which has been tilled for ages, in the efforts to produce the little knowledge which we possess of this disease at this date. I shall only make a superficial review of the subject, and, I hope, in such a way as to draw out the opinions of others in profitable discussion.

It is unnecessary to give here any definition of puerperal eclampsia, for there is little opportunity for confusion, especially for those who have had their peace of mind once disturbed by the sudden eruption of this shocking disorder. But I will briefly say, that I exclude all cases of apoplexy, epilepsy, and hysteria, and only include those sudden tonic or clonic spasms which occur sometime during, and are in some way dependent upon, the puerperal condition; and this condition is to include pregnancy, parturition, and the lying-in state.

The time at which convulsions are most likely to occur, is, so far as I can learn, in the last weeks of pregnancy, then during labor, and least likely after the birth of the child. How long after labor it has been known for convulsions to occur, I do not know, but never, in my own experience, beyond a few hours. In the transactions of the American Medical Association, for 1876, a case is mentioned as occurring one week after confinement.

The two divisions of this subject which present the greatest interest are its etiology and its treatment, and to these I shall principally devote the time which this cursory paper is to occupy.

The etiology of puerperal convulsions has always been the source of much speculation, and many theories in endeavors to explain the strange phenomena that occur in a condition in which nature is performing one of her highest offices, that of creating a new being. And it would seem as if most observers began their investigations with the preconceived idea, that the cause must be single and not multiple, and the one cause which has been presented above all others, and to substantiate which volumes have been written, is that of albuminuria, or uraemia.

The naturally attending difficulties in the repeated examination of the urine of women in the puerperal state, from the fact that the physician sees or knows but little of his patient till time of confinement, renders it very difficult to give any satisfactory statistics or proof of the frequency or infrequency of the albuminuric condition in cases in which convulsions subsequently occur, and therefore I can give but little testimony on this point from actual observation. But it is certainly true that there are many cases on record in which no albumen existed in the urine; and, on the other hand, cases of albuminuria are reported in which convulsions did not appear. And the very fact that the truth of this theory has not been established beyond doubt in all these years, now nearly forty since it was first suggested, seems to me to militate strongly against its being the chief or principal cause of this disorder, and, I think, if we are to regard it as a cause, we must look upon it as only *one* of the causes.

And in this connection arises the question, Whether we shall regard albuminuria and uraemia as the same condition? Some authorities seem to write of them as separate conditions; but I have been in the habit of looking upon them as coexisting symptoms, and I think this is the general understanding, although it must be remembered that the detection of uraemia is much more difficult than that of albuminuria, and therefore the evidence of the existence of uraemia must be notably less than that of albuminuria.

Another question for consideration here is, Does urea in the blood produce convulsions? Frerichs has established, by extensive

experiments, that the presence of urea in the blood does not, even when in considerable quantity, produce convulsions, but concludes that the urea is decomposed by some unknown process into carbonate of ammonia, and that this is the active poison; which, however, is again denied by Hammond. Indeed, in cases of undoubted disease of the kidneys, and possessing all the symptoms said to belong to uraemia, I think it will be admitted by physicians that convulsions are very rare, and I do not now recall a single instance in the many cases of Bright's disease which I have seen in my practice.

Therefore, although that condition of things which we call albuminuria may be one of the exciting causes of convulsions, it is, in my opinion, far from being the direct or principal cause, and tending to support this belief, also, is the fact that many known cases of albuminuria were not followed by convulsions. And, again, there is much difference of opinion as to the cause of the albuminuria; some believe that there is a true inflammation of the kidneys; others, that there is only a congestion of these organs from the pressure of the enlarged uterus; others, that there is an altered state of the blood; and thus we find that the pathology is in as much a state of uncertainty as the etiology. And in the cases where post mortem appearances show acute nephritis, the inquiry is raised, Did the nephritis precede the convulsions, or vice versa, and thus the albuminuria follow, instead of precede, the convulsions? Both sides of the question are supported by good authority. And so, gentlemen, I think that anyone who attempts to read up this part of the subject will find that his researches throw great discredit and uncertainty upon the belief that puerperal convulsions are of uraemic origin. And without any attempt to deny that urea is an active poison to the nervous system, and may cause convulsions, or that convulsions and albuminuria do often coexist, I do not believe that eclampsia is so generally dependent upon uraemia as has been taught in the last thirty years.

Then we have the more recent theory of Traube and Rosenstine, which is, that there is an acute anaemia of the brain, which is a result of the hydraemic condition of the blood usual in the pregnant state, and this, with a slight hypertrophy of the heart and increased tension of arteries, causes a temporary hyperaemia of the brain,

which is followed by effusion into the cerebral tissues, resulting in pressure on the minute blood vessels, and causing anaemia. This, it is claimed, accords with experiments of Kussmaul and Tenner, showing that convulsive disease is dependent upon cerebral anaemia; and with Brown-Sequard, that anaemia of the nerve centres precedes an epileptic attack. I do not propose to discuss this point, even if able to do so, but only introduce it to merely say, that if true it is of importance in the matter of treatment of this disease, so far as relates to the propriety of blood-letting.

Uterine contractions, also, have been put forward as the exciting cause, as undoubtedly they may be in some cases; but the fact that the fits take place at a time when we have no reason to suppose that there can be any contractions, is enough to place this only among the catalogue of *possible* causes. And then some very *profound* thinker has wrought out the *very difficult* suggestion, that there may be some unknown, or as yet undiscovered poison in the blood, which causes both albuminuria and convulsions. But this is pure speculation, and has not a single fact to favor it. And so it goes, gentlemen, with a few of the theories of this disease, and, as the showman says, "you pays your money and takes your choice."

My own ideas of the etiology of eclampsia, and I suppose you are anxiously awaiting to hear them, are: that primarily we have in the puerperal state a peculiarly susceptible condition of the nervous system, one in which impressions are received and disturbances created more easily than in the non-puerperal state. And yet why this susceptibility should show itself in one female and not in another, or in one pregnancy and not in another of the same woman, it is utterly impossible to determine.

But it is no more incomprehensible than that one child should have convulsions and another not, after eating the same indigestible food, and is no more inexplicable than many emotional and other disturbances which have their origin in that world of mysteries, the nervous system. Starting, then, with an exalted condition of the nervous system as one of nature's provisions for carrying on the process of creating a new being, as the prime cause, we have, for the secondary causes, innumerable sources to which we can attribute the attacks. And these secondary causes may be of

internal or external origin. Internal, we may have indigestion, constipation, retention of urine, *disturbances of the circulation*, anaemia, plethora, uraemia, exhaustion, or the pains of labor, or anything which produces an irritating influence upon the nervous system; external, we have moral shocks or emotional disturbances, such as arise from grief, joy, surprise, disgust or disappointment.

Such, in a few words, are my own ideas on the etiology of this disease; and although I am aware they do not explain all that we desire to know, yet such are the results of my observation, my reading and my reasoning; and upon this belief I shall rest till some one can demonstrate my error.

The prognosis of puerperal eclampsia, so far as it relates to the mother, must always be of a grave character, although much depends upon the severity of the attack. Under the results of more modern treatment, the percentage of deaths is much less than formerly, and may be stated to be about thirty per cent., although some statistics show a better result than this. In regard to the child, the prognosis is also unfavorable, even more so than with the mother. In my own experience, I believe I have never succeeded in delivering but one living child; and, so far as I now recollect, I have known but one similar result in my intercourse with other physicians. The delivery of a living child depends largely, I presume, upon the time at which the convulsions occur, and how quickly circumstances will allow of its natural or forced birth. Of my own cases, I have not, as yet, had a fatal result to the mother, and of those I have seen in connection with other physicians, I have witnessed only one fatal result. This case was one of a multipara, in which there was intense premonitory headache, and in which the patient became insensible at the first convulsion, and so remained, dying in a few hours.

The number of my own cases, if I recall them all, are only five, and those seen under others' care, three,—eight in all,—with one death, or a fatality of about twelve per cent.

It has been said that puerperal fever is likely to follow eclampsia, but a case has never come to my observation. All cases have progressed well, with no serious symptoms, or sequelae, beyond the exhaustion which naturally follows the attack.

The premonitory symptoms of convulsions should claim some of our attention on account of their great importance in reference to prophylactic treatment. Some authorities assert, that nearly all cases have their warning symptoms, more or less pronounced ; but, as I have already remarked, we know so little of our patients prior to confinement, we have but little opportunity to study them. Principally among these symptoms are those referred to the head, as headache, vertigo, loss of sight, and disturbance of the mind. Oedema of the feet, legs and face is also generally looked upon as a suspicious symptom, and there are also some minor indications, such as unusual restlessness, or stupor, anaemia, and a feeling of general malaise.

But the sensations of the female in the puerperal state are so multifarious and incomprehensible, that to determine what symptoms require attention from the physician, and what do not, calls for a nicety of discrimination which I apprehend few physicians can always command. In my own experience, when the signs and symptoms have induced me to fear convulsions, I have always been happily disappointed. Especially has this been the case where there was excessive swelling of legs, and perhaps of the whole body. I also well remember two cases of extreme anaemia, in which my fears were excited as to the course the cases would take, both of which terminated perfectly well. Severe head symptoms are of very serious import, and in any case in which cerebral symptoms were very prominent, especially that of severe pain, I should at once institute such energetic treatment as circumstances demanded.

But the most important part of this subject, to us all, is the treatment, and is one in which every obstetrician should be well informed, for the frequent suddenness of the attacks calls for rapid comprehension of the situation, and leaves no time for prolonged reflection, and at a time, too, when there is danger that the terror-stricken friends may infuse their demoralizing influence even to the physician himself. There are occasions when the physician must have perfect self-control, and when he must put such firmness and earnestness into his actions as to control everybody else about him; and there are occasions in a physician's career when he is called upon to assume

the role of a tyrant, and these are in convulsions and flooding; there must be no dallying, no hesitation, no listening to the advice of half distracted friends, or of some overwise old nurse; but the physician must push right on in the course which a clear head and a knowledge of the disease points out.

Prophylaxis is of as much importance in this as other diseases, and every preventive means should be adopted to meet those conditions which are supposed to precede the attack. As the spasms arise from so many causes, so very various must be the treatment, and such as medical common sense dictates in each case. The diet, in quality as well as quantity, must be noticed, as well as the condition of the intestines. The nervous system should be guarded against all extremes of emotion and excitement, and *all* deflections from health should receive appropriate attention.

But the one condition which is looked upon with more serious forebodings than others, is that of albuminuria; the treatment of which may be summed up to be, diuretics, hydrogogues, diaphoretics, abstraction of blood to relieve congestion, and especially iron. While speaking of the premonitory symptoms, emphasis was placed upon severe pain in the head. For this, when there is no contraindication, the grand remedy is a full venesection.

The induction of premature labor has of late years been advocated in severe cases of albuminuria, where the life of the mother is evidently in great danger. I have had no experience in cases of this description; but from all that I can gather, I judge that it is a warrantable procedure, and is to be advocated in suitable cases, just as much as it is when the mother's life is in danger from any other cause.

And now we will take up the treatment of the attack, which is the time at which we see nearly all of our cases, so sudden and unexpected are they, and so inopportune and unauspicious are they, that a would-be scene of quiet, joy, and hope, is transformed into one of confusion and terror, when a clear head and a stout heart are necessary to restore composure and confidence.

Routine treatment is as much to be shunned in this disease as any other, and, therefore, the indications of each case must be considered and met. There are certain remedies which expe-

rience has taught us are useful in the treatment of eclampsia; but no one of them, or any special number of them, can, from the very nature of things, be applicable to all cases.

The time of the occurrence of the attack, whether before, during, or after labor, must be considered, and the exciting cause must be sought for; though in many cases, this, I opine, cannot be discovered, so as to be of much service in relieving the immediate symptoms. In short, all the salient points of each case must be fully comprehended before intelligent treatment can be given.

Blood-letting has been, until within a few years, regarded as the sheet-anchor in this disease, and is so looked upon, now, by many, and I shall reckon myself among this number. But in advocating venesection, I do so on reasonable grounds, and would apply it only to cases indicating it, or perhaps I should say, not contra-indicating it. No sane man would advocate bleeding for convulsions in a woman already faint from the loss of blood, or who, it may be, is in spasms from this very loss of blood. No more would it be proper to bleed in a case where it is evident that some recently ingested food is the cause of the attack, and where it is possible to give an emetic to remove the offending substance; although in this case, if there was insensibility and inability to swallow, I should not hesitate to use the lancet, for the same reason as in the other cases.

It is all very well to theorize and reason about the injury done by the loss of blood, and to say, that recent pathology does not teach bleeding, yet facts and experience tell their own story, and that, too, one very favorable to blood-letting; and I believe there is no treatment so prompt, so decisive, so satisfactory, and so generally applicable as blood-letting,—although by no means always successful,—when followed up by appropriate remedies. Its first effect is to relieve the damage done by the extreme vascular tension in the brain, lungs, and other organs; and, secondly, by its sedative, relaxing effect, prevents or mitigates other seizures.

I do not believe that bleeding operates by removing so much poison, as urea, from the system, for unless the blood is the only solvent or carrier of urea the fluids of the body must be impregnated also; and thus the fluids which are drawn into the circulation,—as is said to occur,—to increase again the volume of blood

after bleeding, must also be charged with the poison; and thus nothing is gained towards a purer blood. The next most valuable, and by some accounted *the* most valuable treatment, is the inhalation of chloroform, ether, or other anesthesia. But chloroform is *the* anesthetic advised. I have used both ether and chloroform, and cannot say that the former is not as satisfactory as the latter, so far as its final effects are concerned. Chloroform is more prompt in its effect, perhaps, requires less bulk, and is more of a sedative than ether. The anesthetic should be administered so as to produce only impression enough to control the spasms, and may be continued for an indefinite time. It is well, during the spasm, when respiration is at a minimum, that the anesthetic be withheld, that aeration of the blood should not be further obstructed by its administration. Some physicians claim that they can manage convulsions solely by chloroform. My experience with it, used in this way, amounts to only one case. I gave the anesthetic for hours, with no permanent improvement, when another physician was called in, and by his advice the patient was bled, with the effect to stop the spasms. In some cases I can imagine it might be the chief remedy, but generally I should regard it as only an adjunct to other means.

As an auxiliary means for reducing congestion and vascular tension, as well as purging the system of any irritating alimentary matters, a prompt cathartic, hydrogogue or otherwise, is generally advisable. Croton oil is with me the favorite remedy, while others prefer jalap, calomel, or eleterium. Enemata may alone be sufficient to accomplish, in some cases, what I think is an important step towards the cure of this disorder.

The administration of opiates in these cases, and especially where albuminuria exists, has been considered by some as highly dangerous. This view appears, however, to be based on theory, and is not in any degree sustained by experience. After the bleeding, and a movement of the bowels, or even before, a full dose of morphia will often act like a charm; but, it is to be remembered, that the same dose of morphine will act more powerfully on a patient after she has been bled than before, at least I think I have observed it to be so. If there is necessity for prompt action, or the patient cannot swallow, the hypodermic injection should be the method of administration.

If, after venesection, there is a highly rapid pulse, veratrum viride can be given with excellent results, and it should not be given sparingly. In a strong patient, fifteen to thirty drop doses of the fluid extract, repeated as needed, will not produce any symptoms to alarm a watchful man.

Hydrate of chloral, of late, has come in for its share of praise in eclampsia, and it is unquestionably an addition to our list of useful remedies for this complaint. Cases have been reported which were treated solely by this drug; but it does not appear, from all accounts, that it is to be trusted to this degree, except in very mild cases, but is rather to be assigned, like opium, to a secondary position, and as an adjunct to more reliable remedies. Fifteen grains by the mouth, or thirty by the rectum, is an effectual dose, when indicated. Where the inhalation of an anesthetic is undesirable, from a cyanotic condition, or to save the time of the physician, chloral or morphine may be administered, and sometimes with striking effect.

On the question of what is called the obstetric management of eclampsia, learned doctors disagree, as they do on most points; and from this very difference of opinion among the best observers we can derive a good lesson: that there can be no definite rule to follow, but that each case must be treated according to its own indications and circumstances.

In ordinary cases occurring before labor has set in, my practice has been not to interfere, and I believe this accords with the weight of the latest authorities,—though there are a few marked exceptions,—and I have never had cause to regret the course followed. As I view the condition, any considerable manipulations to dilate the os, or induce labor, will, through reflex action, tend to excite the spasms, and in ordinary cases I should oppose any interference, as labor is very sure to be brought on by the convulsions, and to be accelerated by the treatment already given, such as blood-letting, anesthetics, anodyne, &c.

But there may be cases in which the treatment does not control, and in which the distended uterus seems to be the cause of the fits, in which the gravity of the symptoms might warrant attempts to evacuate the uterus; and then I should select such method for inducing labor which would produce the most rapid result with

the least irritation. The methods for inducing premature labor are too numerous to mention or discuss. If labor has begun, and the pains are strong and regular and the os dilating, it is injurious to interfere; but if the pains fail, and there are symptoms which create urgency, and the os is dilatable, rupture of the membranes and careful dilatation of the os and emptying of the uterus would seem to be demanded. If the head is well advanced and there is no probability of a quick delivery, the application of the forceps should be made, and the labor terminated. Forcible dilation of the os is unreasonable, and is condemned by most of the best instructors, and the rule of Tyler Smith is the one most advisable to follow: "That we adopt the course which will give the least irritation to the mother."

"Thus, if the fits seem to be induced by the pressure of the fœtus, and the head is within reach, the forceps, or even craniotomy, may be resorted to. But if there is reason to think the operation necessary to complete delivery is likely, *per se*, to prove a greater source of irritation than leaving the case to nature, then we do not interfere."

And so, gentlemen, I conclude, although I am aware there are many interesting points which I have not entered upon, partly for the reason that I have already overrun the time which I intended to give to this paper. But on the points which I have touched, I have endeavored to give you my own ideas, and I offer them to you for free criticism.

CONSERVATISM IN THE PRACTICE OF MEDICINE.

BY J. R. KIMBALL, M. D., SUNCOOK.

Fellows of the New Hampshire Medical Society:—

In times like the present, when there is so much of rush in life, when every department of business seems fully supplied, with many waiting for vacancies; when, in order to compete successfully with the eager hosts, it is necessary to put forth every energy, and when the contestants for the front rank and the first honors are so widely different in character, education, and fitness,—in times like these much is often said and done which in after years is looked back upon with regret, and it may be with sorrow and shame,—sorrow that whereas good might have resulted with more careful use of the opportunities, the opposite condition prevailed; and shame that so much of selfishness entered into the promptings of our words and actions, and gained only temporary self-gratification as a reward. Retrospection often shows us our failures more plainly then it does our successes. But the picture, although unpleasant to look upon, will, if studied carefully, teach us many useful lessons. We find that many of our failures are the legitimate result of hasty actions, carelessness, selfishness, and faulty opinions, and as we look about us we find the same causes and effects in the lives of others.

The great struggle among the masses, is to get up higher, or to spread out broader; there is a strong and growing desire to be seen, or heard, or felt more; a desire to occupy more space in some way. This is certainly commendable, when not perverted, or prompted by unworthy motives. To be valuable to the world,

it must have honesty and integrity as its immediate supporters. If a man would be prominent, that he might be better able to benefit the world, it is surely a worthy ambition; but at a glance into the realities of life, we find that this is not, as a rule, the case. Selfishness is too often the leading and most potent feeling. Ignorance and superstition prevail in all the walks of life, and are made use of to gain power and hold sway. The world is full of pretenders, occupying positions in every vocation, whose duties they are totally unfit to perform.

There is, also, a constant reaching out after something new or strange, wonderful or mysterious. "Change is the dirt on which all feed;" the clamor for it is so great, and so unremitting, that not only individuals, but communities, and even nations, feel its effects. We find it in every department of life, in political, mercantile, professional, and social. Its effects often bring disastrous results, and to guard against these a conservative element is being developed in the various callings where it is most needed; and conservatism, in its true sense, is to become the balance wheel in all advance movements. It is needed in other callings, and is also needed in our own profession, and in inviting your attention to "Conservatism in the Practice of Medicine" to-day, I do so feeling that it is a subject of importance to every true physician.

By conservatism, I do not mean the extreme of narrowness and reserve, a principle which holds its adherents to one course of procedure only, but a generous caution, under all circumstances, that which leads a man to examine every subject that comes before him, so that he is able to speak and act understandingly. If we ask a man's opinion upon any subject, that opinion will be valuable, or otherwise, in proportion to its foundation being, sound reasoning, or proofless theories; hasty opinions, and fine spun theories, are very good when correct in result, but careful opinions, based upon facts, are levers with which to move the world.

In no department of life is there so great a call for careful study, correct reasoning, and mature judgment, as in ours. No other profession or calling is so open to criticism and censure, and none where so much is expected and demanded by those who look to it for aid. In ordinary business transactions, the people demand exactness and honesty, and in case of failure to meet these de-

mands, laws are provided through which redress may be had, and the only or principal loss which is sustained, is in financial matters, and may be replaced. But in our calling, if we fail to meet the requirements of honesty, care, and a thorough knowledge of our business; or, in other words, if the physician is careless, hasty, or ignorant, he puts in peril not merely the finances of his patrons, but that most precious gift to man,—life.

If, then, it is necessary to have carefully expressed opinions, correct reasoning and honesty, in the common business of life, how much more is it needful that those into whose hands sick and suffering humanity commits itself, should be careful that the great blessings of life and health, of which they are the guardians, are not lost or injured by carelessness or ignorance, neither by rashness or indolence.

No other man holds such peculiar relations to his fellow men as the physician; he is counsellor and confidant in all times of doubt, trial, and calamity. Truly, no other calling carries with it such a demand for integrity, and none so much responsibility. No other profession or calling places its workmen in so favorable positions for the elevation and proper education of the public mind, both in morality and that of which there is great need, viz., matters pertaining to health and its preservation. The physician must be the educator of the public in these things. It is a fact, that the masses as we meet them, are profoundly ignorant respecting disease and its cure, as well as the proper measures to be used as prevention. The world is full of crude, unexplained and unexplainable, dogmas, theories and "isms," some of which present on the exterior an appearance of plausibility, but within are full of emptyness. "A drowning man will catch at a straw;" so men in distress of mind, as well as of body, will catch at what appears to be the relief needed, no matter by whom it is presented, or through what course of reasoning it is declared to be good, and they are often led to their own destruction by the false and deceptive appearances. There is great need that correct and reasonable ideas be inculcated into the public mind, as a means of protection against imposture, and this should come through the medical profession. By it the people may be led and taught, and their ideas moulded aright, and an intelligent theory for self-protection be given them, which will aid

them in combating disease as it exists, and also open the way for the establishment of proper sanitary measures, by which the origin and spread of disease may be wholly or in part controlled. The physician may point out or define, so far as possible, the difference between the false and true ideas upon this subject, not only attending upon the needs of the sick, but giving directions to the efforts of the well to protect themselves. Let his advice be carefully given, and his reasoning based upon good substantial proof, so far as possible avoiding extremes in either direction,—working steadily on middle or conservative ground,—he may give his patrons a sufficient insight into the fundamental principles which guide him and others physicians in their work, so that they may feel more at ease even under trying circumstances.

It is natural to grasp whatever appears, on the surface, to be the correct idea, without looking farther. Calm study and careful investigation have long been left to the few; the many accept, promptly, that which is put forth with the most gusto, and has a sound plausibility in it, and their estimate of results is based upon "*post hoc propter hoc*,"—the last remedy given, either killed or cured the patient. They jump at conclusions, and are easily led by a glib tongue, and a gush of cheek. The ignorant quack, with his smooth flow of words and empty show of technical terms, leads the crowd away from the educated and honest physician. We find men in all classes of society who do not see the difference between honesty and fraud; they will take stock in the vender of patent nostrums as readily as in the educated physician.

Now this ought not to be. Something must be wrong. Somebody is to blame. But who? Is it the people, or the profession, or both? The most natural view of the matter is, that both are at fault; but, as that of the profession is what we have to deal with to-day, we will leave the other for future attention.

Physicians are but human, and liable to err; and may it not be possible, and even probable, that selfishness, and a certain professional exclusiveness, leads them into error in their relations to their patrons; and do we not, also, sometimes allow the desire for popularity to overcome private and professional judgment, and, yielding to what is clearly demanded by the people, give out opinions and theories which go forth to the world, in form and foundation, very much like those of the quack?

Do we not hold the people away from us by being uncommunicative and reticent on the subjects of interest to them, as well as to us? In years past, there may have been a feeling of superstition connected with the practice of medicine, in the minds of the people, holding them at a respectful distance; and among the aborigines the "medicine man" may have been looked upon with awe and fear, and no attempt made to understand his senseless jargon, or his wild incantations; but in these later days, so replete with wisdom and civilization, it should be one of the great principles of life, both professional and social, to drive away all such relics of the middle ages, and to let the beacon light of truth shine out clearly for all. Much of this may be accomplished by *our united* efforts. Such information as will be readily understood by, and useful to the people, may be given forth, and, when once incorporated into the public opinions, will serve to allay useless fears, and often to guard against real dangers; but, to do this, our position must be on conservative ground, and from this we must reach out and aid those about us. Caution must be our watchword, and the greatest amount of good to the whole our chief incentive to action. The physician stands as the guardian of the public health; and, if conservatism is needed, it must begin with him. His life and actions must exemplify his teachings. To him the people look in times of sickness, pestilence, and calamity, and as he is fully prepared to meet the demands made upon him, so will the public be served. His position is made more trying and tedious by the meaningless theories and corrupt teachings of quackery, which lead so many astray; and his only safety is in a well-defined, conservative course.

We all know that although great advancement has been made during the past in the practice of medicine, and much has been added to our knowledge of the causes of diseases, and the means by which they are spread, there is yet much uncertainty before us. Our profession has not been reduced to an invariable science. Much remains for future effort. Much of our information is fragmentary and lacking in proof, and our practice must be correspondingly unsatisfactory. The means for study and investigation, within our reach, are much better than in the past, and are still improving; but, with all of these at our command, we often

find our best calculations at fault, and our opinions and theories come back upon us unsupported by practical facts; and when, with these improvements to help us, we are able to form a correct diagnosis, the treatment is often unsatisfactory and experimental in its nature. In our *materia medica* we find very few specifics. With the microscope we may decide as to the true nature of disease, and thus be able to form very accurate opinions concerning the probable result, and much of real good has, and will still result from the use of this instrument. We have also at hand the ophthalmoscope, stethoscope, thermometer, spectroscope, and many other and very useful instruments to aid us in our search after facts. Chemistry comes to our assistance with its numerous tests and analyses. Surgery, with all its triumphs of skill and daring, opens the way for more thorough study and accurate knowledge of diseased parts, and allows of more direct and efficient medication, as well as prompt and permanent relief, by skilful manipulations. Anesthesia is our helpmate to lessen danger from shock, and allow of more deliberation, and greater safety in performing difficult operations. The whole world is open to us, from which to select and manufacture remedies, and yet, with all of these within our reach and under our control, men die; diseases arise, run their course, and terminate in death, very much as they did in the days of our fathers in medicine.

Considering the uncertainties connected with his calling, it seems eminently proper that the physician should hold himself under strict control to the dictates of mature judgment. He should be carefully guarded in every advance, not only in his efforts in behalf of the sick, but in educating the well. In the one case, he holds the life of a fellow being in his hand, as it were, and much depends upon his care and skill; in the other, he is shaping public opinion, and may, by an unguarded word, or a thoughtless action, give rise to what is utterly false, but which will be incorporated into the public opinion as true and reliable. As a rule, conservatism is his true position and the public's safety. Still, there are times when it becomes necesssary for him to place himself in positions of doubt and uncertainty, to go beyond the bounds of conservatism, and even his own better judgment. Yet much is at stake, and nothing but a bold push away from ordinary

routine practice, and quick, sharp, but skilful blows, will be of any avail to gain the desired end, and even these may fail; but the people look to him for prompt and decisive actions, and hold him responsible for the results. Under such circumstances as these, nothing gives him more confidence in his own ability, or induces those about him to feel such firm reliance in him, and accept the result of his efforts,—whatever it may be,—as all that could be gained, as a well-known record for careful and still efficient action, and that he has never suffered defeat from rashness, or carelessness. The people, although often quick to catch at new ideas, and, it may be, slow to recognize the correct ones, are yet prompt to notice men's failures, and inconsistencies. All of our hobbies are weighed by the observing multitudes; our individual peculiarities are the subjects of general criticism; our disagreements on doubtful subjects are freely commented upon; and in various ways are severe tests being applied, and fortunate is he who comes out with few scars.

Many changes have taken place in the practice of medicine, within the memory of our oldest members,—some are good, some are doubtful,—but such changes must continue if we would be progressive in our work,—only let them be made when the interests and well-being of humanity demand them, and *then only such* as will bring our work nearer perfection, and render it a greater benefit to the world. The ultimate result of these changes must be good, as it sifts and arranges our articles into better order for more ready use and satisfactory results; but the immediate effects must often be injurious, when they are made by incompetent persons, or too hastily depended upon in cases of emergencies. The profession may learn something by such trials and changes, but the unfortunate patients must suffer. There is too much of a pendulous swaying from one extreme to the other; one day a remedy is good for everything, and the next it is laid aside as good for nothing. Old remedies are discarded, not because of any failure of their specific action, but because new ones come to the front with a rush and flourish, heralded by the opinions of a few who have tried them; they are said to have effected wonderful cures, and to possess marvelous powers over the nervous, circulatory, or digestive systems, and *custom* demands that they have

further trial. Opinions are often given too hastily in such cases, and all too soon fall to the ground. More careful study, and less haste in proclaiming the virtues of new remedies, will result in more satisfactory and useful knowledge for the individual physician, as well as to the profession at large, to say nothing of the peace and safety of the unfortunate victims for whom we concoct and prescribe so many doses. One of the crowning virtues of the fathers of our profession was their loyalty to drugs, and remedies which they had tried and proved good; their *materia medica* was not so voluminous as ours, and they may have had many queer notions and crude ideas of disease and its cure, and yet they left on record much that is of unchangeable value to us. Many of their principles and methods of practice are still in constant use; others we have, in modified form, changed to keep pace with the progressiveness of the times; and some have been discarded altogether. As our profession is still improving, not having as yet reached the fullness of its glory, we must expect that in years to come our opinions and practices will be criticised by those who come after us; and as we leave, as a legacy to them, a system of medical practice based upon reasonable theories, and of indisputable worth, so will they respect us as their predecessors.

In these days of progress we often find ourselves honestly at variance with each other, and our opinions jostling those of our neighbors; different results follow the administration of the same drugs, under modifying circumstances, which are not at first recognized; diseases manifest themselves differently at different times; and thus the various opinions are brought to the surface; and this condition of things must continue until time and patient labor have evolved a system of medication, or a knowledge and practice of sanitary measures, which is so complete that few drugs are needed to meet the demands of suffering humanity.

At present much interest is felt, and much labor is being put forth in the investigation into the true causes of diseases, especially fevers. Various theories are before us, and much is being said and written concerning each, to establish its claim as the true one. It is not my province, nor purpose, to discuss either of these theories in detail; neither shall I attempt to argue for, or against the claims of any to recognition; but speaking from a conservative

standpoint, I may be allowed to hoist cautionary signals along the line, and urge the importance of care in the positions we assume respecting these matters, while there is so much of doubt and uncertainty remaining. Men of high repute in the profession differ in their ideas as to what is correct, and while this is so the public should be disturbed only by such matters as are of undoubted benefit, and indisputably safe, in fact as well as in theory. As was assumed in the early pages of this paper, the physician is, or ought to be, the educator of the public on the subject of health and its preservation, and in no part of his work does he so much need to be careful, that his teachings are such as will result in the greatest good to the whole community, as in this. Reasonable teaching, from well-established facts, will be understood, and will result in calm, judicious action by the people; but hasty opinions, unsupported by such facts, will lead to distrust and useless fears; and especially is this so during the unusual prevalence of any disease, but particularly those called contagious. The announcement of a case of scarlatina, or diphtheria, in a community, is heard with alarm and dread, and very properly so, as these are most unwelcome visitors in any family; but we often see the alarm carried to needless extremes. The people, with their present understanding of the subject, are easily aroused, and not particularly reasonable when excited; the fear of personal contact leads them to avoid every one who has been near the disease, and cases are not infrequent where families have suffered for needed assistance in caring for the sick, and were even obliged to perform the last offices of love and respect for the dead, unaided by friends and neighbors. Not long ago one of the teachers in my own village came to me, and asked if it was unsafe for her to remain at her present boarding-place, saying there was a child sick there with typhoid fever. She was not disturbed for herself, but some of the people were afraid she might carry the disease in her clothing, and so expose their children in the school. This was rather absurd, and still it is but one case of such as are constantly being met, coming not only from the unlearned, but from the most intelligent and respectable families. Self-preservation is one of the first laws of nature, and one for which we all entertain the highest respect.

Now what I would suggest as the needed relief, must come from the medical profession; the physician must, by reason of his position, be the balance wheel of public feeling. What the captain of a storm-tossed ship is to his crew and passengers, that must the physician be in times of public fear or danger from disease. While there is so much of doubt and difference of opinions among eminent men in the profession, as to the true cause of these diseases, and also to the extent to which they may be communicated from one to another, by carrying in clothing or otherwise, it would seem proper that such a view of the subject should be presented to the people as will best meet the demands for safety to all, and still not unnecessarily alarm them. It may be that physicians are too reticent upon such subjects, not so ready to teach, by careful explanation, as to put forth individual opinions, at variance it may be with those of some one else. More union of *openly expressed* opinions among different members of the profession will tend to win to them more fully the confidence and respect of the people. Jealousies among physicians is sure to give rise to, and foster distrust and criticism among those looking on. As an illustration to be given to the people regarding the danger of carrying scarlatina and diphtheria in the clothing, the following statistics may not be wholly uninteresting; they are compiled from answers, which many of you so kindly sent me, to questions sent out last fall. Answers were received from twenty-six different physicians, whose experience covered an aggregate of five hundred and fifty years:—

To the question, "In how many instances have you been morally certain of having carried diphtheria in your clothing, or otherwise, from one family to another?" one, after a practice of sixteen years, said, "I cannot say precisely,—from four to eight." The other twenty-five recalled no instance.

To the same question concerning scarlatina, the same gentleman reports, "Have had fears that I had carried it in six or eight instances." The other twenty-five reported the same as before.

To the question, "In how many instances have you found diphtheria to have been contracted, apparently, at funerals, where the cause of death was diphtheria?" twenty instances are reported, nearly all strongly qualified with doubts.

To the question, "What means of disinfection do you use when attending either of these diseases?" twelve (of the twenty-six), whose experience covered 171 years, made use of the various disinfectants, change of clothing, &c.; the other fourteen, whose experience covered 379 years, used simply cleanliness and fresh air.

Now, while these statistics do not *absolutely* prove anything, they are yet very suggestive, and will at least serve to allay the anxious fears of the people, when given to them with proper explanation; for if, in reviewing terms of practical experience with these diseases, which cover in the aggregate 550 years, we find only some half dozen cases where each *may* have been carried in the physician's clothing, and about twenty where diphtheria has been supposed to have been contracted at funerals,—with all the doubts that must linger about either side of the subject,—it would seem that we are justified in telling the people that, with ordinary care and precaution, these dread diseases may be met, and their victims cared for, with no real occasion for general alarm; they should have the benefit of every doubt that exists, and thus they may have and still fulfil every duty to the sick and afflicted. The people may be amply protected, and yet meet all the requirements of neighborly kindness and friendly sympathy; but, in order for this to succeed, the profession must take the advance step, and, teaching by precept and example, educate the masses to look upon the danger that exists, with a view not only to self-protection, but to the general safety of all.

Doubtful subjects may be freely and fully discussed at medical meetings, and between individual members of the profession, but to bring them into public debate only stirs up doubts and fears among those whom we would protect. If we must disagree in these matters, let us do so where no harm may come from such disagreement, and let us give to the public ear only what is proved to be correct; or, if not so fully proved, such as will cause no harm by reason of doubt concerning it. Conservatism among physicians, means peace and safety for the people.

Our profession owes its present position of respect and honor before the world, to the earnest and unremitting efforts of its best members in the past; what it shall be in the future, rests with us. We *may* transfer the trust confided to us into the hands of those

who come after us, with all its present honors and usefulness intensified and enlarged, or we may give it to them with its fair record marred and defaced, according as we work unitedly, or at variance. A mist of doubt and distrust hangs about the horizon of our professional world, caused by the presence of uncongenial elements within. Unworthy members occasionally find their way into our midst; those who were admitted as worthy, prove false to the trust and bring reproach upon the profession. A change is needed to guard it in this respect. Conservatism is needed in the first step towards membership; none but men known to be of sterling character should be recommended, or received.

The same may be suggested in regard to graduating men from our medical colleges. Scores of men are annually awarded diplomas from the various colleges of our country, who are totally unfit to pursue the practice of that, to which their certificates give them admission. Every such man who is added to our numbers is in so much a weight upon the profession, and a hindrance to progress, and until it can be guarded against such, and shall raise its standard so high that the people may readily recognize the difference between the educated physician and the miserable charlatan, this mist will continue to rest upon it, hiding from view the true character of the profession.

Speaking on this subject, the late Prof. Albert Smith said: "It is the know-nothings in the profession, the men who are subservient to the caprices and prejudices of the community, those who have trimmed their sails to catch the first breath of popular opinion, so as never to be found in minorities, or in any way opposed to their patrons, who, instead of leading, as their qualifications and standing should entitle them to do, are led by the ignorance, credulity, and arrogance of their employers,—it is these men who bring contempt upon our calling and induce many of the people to class us on a level with empirics. We shall never fully command respect and confidence until we show ourselves an enlightened, scientific body, actuated by principle and justice, and also as self-possessed and self-relying men, ready for any emergency that can be surmounted by any human means."

What Prof. Smith said in 1854, is true to-day, and there is a duty of purification which rests upon us; it may be one that will be fully

performed only after a lapse of years, but there may be carried on a process of purification by elimination, or, if you please, limitation, which will in the end bring about the desired result. Our colleges should be urged and encouraged to limit the giving of diplomas to those who fully prove themselves worthy to receive such a trust. The colleges cannot do this without the *undivided* support of the profession. Let there be perfect union of effort in this direction, and the future will prove the wisdom of the attempt.

The practice of medicine, in its most complete conception, brings into activity all of the higher principles of our natures, all that is good and true in man, and its portals should be so carefully guarded that none but those who are willing to be guided by these principles shall enter. Human flesh is heir to numberless and severe ailments, and untold suffering; but when the Creator, in His great plan of creation and life, commanded, or allowed such a condition of things to rest upon those whom He had made in His own image, He at the same time fashioned the mental faculties of man with such powers, that the alleviation of these sufferings could be made a study and practice, as the needs in this direction became imperative, and at the same time He filled the air, the earth, and the waters with health-giving and health-sustaining properties, which may be made use of as means for relief, so far as it was in His plan that they should be relieved. The science is God-given, and if we would show our appreciation of His infinite goodness, and our gratitude for thus bountifully supplying our needs, we shall see to it that the calling, which especially shows forth His goodness, never falls into disrepute by any misdeeds, or failures, of ours. Let every member of our loved and honored profession constitute himself a life-long guardian of its integrity; let everything that is unworthy, either in principle or practice, be eradicated, and its foundation be the eternal principles of right, truth, and justice,—then will its own peculiar light shine forth, shedding its health-giving rays upon the whole world, undimmed by error and unshaken by prejudice.

HYPODERMIC MEDICATION.

BY M. H. FELT, M. D., HILLSBOROUGH BRIDGE.

Mr. President, and Gentlemen:—

"In general, nothing is less attractive than an epitome," said Macaulay. But the idea occurring to me that an epitome might be more attractive than nothing, I have so prepared and am to present my subject, designing only to call brief attention to that important department of practical medicine, the hypodermic (or hypodermatic) method, leaving you to seek further light,—if you need or desire it,—of the higher authorities.

We are indebted to Dr. Alexander Wood, of Edinburgh, for the discovery of the practicability of introducing medicine under the skin for the relief of pain, who, in 1843, ascertained that a solution of morphia, injected under the skin in the vicinity of a painful part, afforded remarkable relief to the pain, making his first publication on the subject in 1855.

Although Dr. Wood seems to have observed the remote or systemic effects produced by his injections, he attributed the curative power to the local action of the substances injected, contending that, "the local effect depends much upon the affinity between the particular medicine administered and the tissue to which it is applied."

It is to Mr. Charles Hunter, of London, however, that our obligations are due, for demonstrating that the physiological and therapeutical effects of medicine administered by the hypodermic method are produced through the agency of the blood, and that "localization" of the injection is not as a rule necessary, though exceptions to this rule do doubtless exist. Mr. Hunter's first

paper, entitled "Experiments Relative to the Hypodermic Treatment of Disease," appeared in 1859. The method of Dr. Wood, as illustrated by Mr. Hunter, met with a more favorable reception on the continent than in the country of its origin.

It is true that the principal English physicians and surgeons thought highly of the method, and now employ it largely; but, as Dr. Austie informs us, there are "practitioners who will not admit that there can be any particular advantage in it which the old way of giving medicine does not offer." Dr. Fordyce Barker, of New York, while in Edinburgh in 1856, was presented by Prof. Simpson with a hypodermic syringe, which afterwards became the model from which Tieman's instruments were made. Prof. Barker returned home in May, 1856, and soon after used his syringe, being the first in this country to practice the method of Wood, though Dr. Isaac E. Taylor, in a communication to the New York Medical Gazette in April, 1870, shows that Dr. Washington and he used practically the same method in the New York City Dispensary in 1839, long before Dr. Wood, in his first publication, claims it. Dr. Taylor's communication comes too late to enable him to receive the honor to which, however, it may be he is justly entitled.

The first syringes were exceedingly crude instruments, requiring a preliminary incision through the skin in order to introduce the canula. An almost endless variety of instruments are now made of gold, silver, glass, and hard rubber, with lancet-shaped needles, which readily perforate the skin, producing little pain. Each instrument doubtless possesses certain advantages peculiar to itself; but I prefer the glass cylinder with metal protection; for though the glass is liable to break it certainly has two advantages that others do not. The cylinder and not the piston is graduated, and the contents are visible, a very important matter, for by being able to see the contents we very materially lessen the danger of injecting air. Before using any graduated syringe, the exact value of the divisions of the scale should be determined by comparison with a standard minim glass, for a single drop too many of a concentrated solution of a powerful alkaloid may produce an alarming or even dangerous state.

The particular style of syringe is much less important than the preparation of the medicine to be used, which should be capable of perfect solution in the vehicle, which is usually distilled water, though our ordinary spring or rain water, if perfectly clean, answers equally well, and is, perhaps, best in ordinary practice, as extemporaneous solutions prepared with these are less liable to produce abscesses than those made with pure distilled water which have been kept several days. The solution should be free from all foreign matter of any description. Particles of medicine undissolved, dirt, or any foreign substance, not only delay or prevent absorption, but irritate the tissues and greatly increase the danger of inflammation and abscesses. The solution should be neutral, or at least without decided acid or alkaline property. Any substance that will coagulate the blood or produce violent irritation is unfit for hypodermic use.

A solution, even if neutral, should not be too concentrated, the quantity of fluid injected being within reasonable limits a matter of indifference, provided proper care be used in selecting the site and injecting. Solutions of alkaloids soon become unfit for hypodermic use by reason of the development of a *penicillum*, which organism grows at the expense of the alkaloid, hence the solutions should, when infrequently used, be made as needed.

Having charged the syringe with a proper amount of the solution, invert the instrument and push up the piston slowly until a drop of the fluid is forced through the needle, showing that all the air has been expelled. Then take up a loose fold of skin between the thumb and fore-finger in any convenient situation, the anterior surface of the fore-arm is as good a site as any, insert the needle at a right angle to the direction of the fold, and push it in about an inch with a quick and decided motion, withdrawing the needle a little in order to leave the point clear and leave a sufficient space for the fluid. Then make the injection slowly, that the solution may diffuse itself without rupturing any small vessel or fibers of the connective tissue. When the proper dose has been injected, withdraw the needle, and press the finger upon the puncture for a moment to prevent the escape of the fluid. In practicing hypodermic injections, it is important to avoid puncturing a vein or wounding a nerve trunk.

Serious depression of the vital forces, fainting, and sudden and profound narcotism have been produced by injecting a solution of morphia into a vein. Fatal collapse may be induced by injecting air into a vein along with the solution. Bony prominences should be avoided, for in these situations the skin is not sufficiently loose to permit the ready entrance of the fluid. Neither should the puncture be made into an inflamed part, as in such cases an abscess would likely result. If the patient be timid and intolerant to pain, the sensibility of the skin may be lessened by a piece of cotton cloth, moistened with chloroform, laid on the skin for a few minutes. Should redness and swelling take place at the site of the injection, it will be best relieved by a cold, wet compress. Doubtless every physician has been perplexed by the stubborn fact that a remedy administered by the stomach is affected in its physiological and therapeutical action by the condition of that organ. Disease of the stomach often limits and may entirely prevent the absorption of remedies as does the condition of annexed organs, they very often influencing, at least, the rate and extent of absorption. The digestive fluids undoubtedly exert a chemical action upon many remedial agents, retarding or limiting their activity. Many agents of the narcotic class, and possibly some others, influence by depression, or otherwise, the nerves of the stomach, and thus affect the rate and degree of absorption. A medicine thus introduced into the stomach is often uncertain, unreliable, and sometimes absolutely useless; but when a suitable medicine is thrown under the skin, its physiological and therapeutical effects are produced in the fullest degree and most characteristic form. Experience and observation demonstrate that the therapeutical powers of medicine not only differ in degree, but in kind, according as it is administered by the stomach, or under the skin; and that the subcutaneous injection of certain drugs has developed valuable therapeutical properties, which, when given by the stomach, had never been suggested. This has led Berard to affirm that the hypodermic method instead of being the exceptional must become the general method for the administration of the active principals. Among the many advantages claimed by the adherents of the hypodermic method over others are, that the effect is much more speedily produced, owing to the activity of absorption, with half or less

than half the amount required by the stomach, and that the effect can be calculated almost to exactness. Gastric disturbances never or rarely occur, as irritation of that organ is avoided. Medicine can be given to persons unable or unwilling to swallow, and the results are more permanent and curative. It follows, then, that with the remedies suitable for this method we may obtain all the physiological and therapeutical effects which can be obtained by them when given by the stomach, as well as the effects peculiar to this method. Remedies may be employed hypodermically for a local effect, as the cure of nævi, aneurism, &c., or for the destruction of various morbid growths, and for their remote and systemic effects, their utility having been established by experiments and clinical observations. It is, however, to their remote or systemic effects as therapeutical agents that I wish chiefly to call attention, though I shall be obliged to abbreviate, as their application has extended to a large number of diseases, and the list of remedies is equally extensive. Brof. Bartholow enumerates thirty or more preparations that have been effectively employed subcutaneously, but reduces his list for practical use to the following, as being enough for the ordinary contingencies of medical practice :—

Morphia sulph.,	Apomorphia,
Atropia sulph.,	Eserine sulph.,
Strychnia sulph.,	Pilocarpine nitrate,
Quinia sulph.,	Chloroform, and Ergotin.

I shall, however, call your attention to-day to only two or three of these, commencing with morphia, as being in many respects the most important, and certainly the oftenest used. Having alluded to the necessity of employing medicines that are perfectly soluble, it will be manifest that the sulphate of morphia is the best adapted to hypodermic use, it being the most soluble of the salts, though I have many times used the acetate with no unpleasant results. Various formulæ have been proposed for solutions for subcutaneous use, containing an acid to increase the solubility of the morphia, and prevent the development of the *penicillus*. But acid solutions, although they may be neutralized after mixing, increase the pain and smarting, and not infrequently produce inflammation and abscess,

as has already been pointed out. It is, therefore, far better, when necessary to have a solution at hand, to rub up the morphia in a mortar, add the water gradually, and filter, thus obtaining a perfect solution, which will keep for a few days without the addition of an acid. The following formula is, I think, as good as any :—

℞ Morphia sulph. gr. viij.
Aqua distil. ℥ j.

M.

Ten drops of this represents one sixth of a grain, which is enough for the first dose in ordinary cases; and if unacquainted with the patient, it is more prudent to test him with less than this. The dangerous effect of morphia is very much lessened by the addition of the proper amount of the sulphate of atropia, which should never be omitted unless it is contraindicated. When without atropia, as is often the case, I use the fl. ex. of belladonna, with results as good, and is safer to use in preparing the extemporaneous solutions, atropia being too potent to prescribe by guess. One of the greatest advantages of the hypodermic use of morphia in cases requiring its protracted use, is the very slight, if any, increase of dose necessary to maintain the constant effect. The effects of an ordinary dose ($\frac{1}{6}$ or $\frac{1}{4}$ gr.) continue from ten to sixteen or more hours, according to the susceptibility of the patient. Hence, to maintain the morphia influence, but two doses a day will, as a rule, be required, exceptions to this rule being in cases of severe paroxysmal or intense and prolonged pain. Hypodermic injections of morphia are seldom advisable in children, yet in some convulsive disorders of early life, after the age of three years, it may be necessary to employ them in small or suitable doses. The administration of morphia by this method is especially applicable in diseases of the brain and nervous system. Mr. Hunter was the first to indicate their utility, and affirmed that "for derangements of the cerebral nervous system we have in the hypodermic method a means of treatment far superseding in its immediate efficacy any other mode of medication."

More recent observers have confirmed the affirmation of Hunter; though the introduction of chloral hydrate has somewhat

modified the treatment of psychical disorders by the subcutaneous method, probably each has its own sphere of application. In recent and chronic mania and in melancholia the indications for the employment of hypodermic injections of morphia are prolonged wakefulness; maniacal excitement; refusal of food, drink, and medicine; and destructive and suicidal tendencies. Caution should always be observed in the employment of repeated doses of opium, either by the stomach, or hypodermically, in the fury of acute mania, for though they may produce brief seasons of quiet and sleep, there is danger that sudden and fatal collapse may follow. But the weight of testimony seems to be in favor of the timely use of the syringe at the beginning of the mania, at that critical period when the unusual excitability and sleeplessness indicate that an outbreak is imminent. In the treatment of delirium tremens, Dr. Austie declares that "opium should never be administered by the stomach, but always in the form of morphia hypodermically injected in the dose of $\frac{1}{12}$ to $\frac{1}{4}$ or $\frac{1}{2}$ grain." The indications for its use by this method are the condition of horrors, or wakefulness preceding delirium, excessive vomiting of everything taken into the stomach, and in all cases where there is but little tendency to depression of the vital forces. It is contraindicated in all cases where there is great depression of the vital forces, or serious lesions of the liver, kidneys, or brain. In insomnia, existing either alone or connected with another affection, with no serious lesion of the brain, morphia injections, combined with atropia, are especially indicated. At the commencement of cerebro-spinal meningitis the hypodermic injections of morphia is our most efficacious remedy to relieve the pain and cramp, and quiet the extreme restlessness always so well marked in these cases, and may be heroically used. While it is especially indicated in the early stage, that of irritation, it ceases to be useful when depression of function (paresis) occurs. I am aware that there are physicians who strongly oppose the administration of opium in any form, or by any method, in cerebro-spinal fever, on the ground that it causes or at least hastens paralysis. Paralysis, partial or complete, the former frequently, the latter rarely, occurs in the course of this disease; but it occurs less frequently than we would be led to expect from the nature of the lesions. It may occur

early, but it is more frequently a late symptom. At whatever stage of the disease it occurs, I believe that, if due to *any* remedial agent, the long continued and heroic use of the bromide of potassium, usually considered the sheet-anchor, is more likely to be the cause of the paralysis than opium judiciously employed.

The bromide does not allay the pain, nor many times the excessive agitation, yet it is the common practice to continue its use in such doses and for such a period as to nearly, if not actually, produce its physiological effects. A moderate dose of opium is sufficient to allay these symptoms, and a number of trustworthy observers speak most favorably of it, especially in the form of subcutaneous injections of morphia.

In tetanus and hydrophobia the hypodermic use of morphia will certainly palliate the sufferings of the patient, giving sleep and diminishing the spasm, yet with little or no hope of averting the fatal termination. The subcutaneous use of the extract of calabar bean, or phyostigmia, has, however, some reputation as a curative agent in these diseases, especially tetanus.

But for the certainty of inducing the morphia habit by frequent and continued repetition of the narcotic impression, the hypodermic injections of morphia combined with atropia, as indicated by Brown-Sequard, would dispute with the bromide of potassium for the first place in the amelioration and cure of epilepsy. The injection of morphia is preferable to the bromides in epilepsy, the paroxysms of which occur at night in the *petit mal* and in convulsivetic. They are not proper, as a rule, in cases dependent upon cerebral lesion. The injections may be made during an attack without loss of time when the paroxysms succeed each other rapidly, and are of a violent character. Two or three injections a week will suffice, the good effects of which will be discovered by a decline in the number and violence of the seizures, and marked improvement of the mental condition. The morphia may succeed when the bromides fail; both, unfortunately, fail frequently. In neuralgia, morphia combined with atropia, administered hypodermically, is our surest palliative and most successful curative agent, though not to be relied upon exclusively.

In severe cases the judicious physician will, of course, insist on suitable dietary and hygienic measures, while using the appropriate

remedies by the stomach; meanwhile continuing the injections, which, if they do not permanently relieve, will certainly render the existence of the patient endurable while the proper treatment is being pursued. There is hardly a case of facial pain, from the lightest form caused by the irritation of a decayed tooth or cold, up to that atrocious and obstinate neuralgia of the fifth nerve, known as tic douloureux, that may not be ameliorated, if not cured by the hypodermic injection of morphia; but in this latter form little or no good will result from small doses. The injections, in all severe cases, should be of the maximum dose; even then, two or three doses may not suffice, but the persevering use of full doses will generally be successful and render unnecessary section of the nerve, an operation sometimes resorted to for the temporary relief of the patient's agony. Migraine, clavus hystericus, and other forms of neuralgic headache, are speedily relieved by this method. Great care must be exercised not to employ this method of treatment in that form of congestive headache which often precedes and is a symptom of cerebral hemorrhage.

In herpes zoster, the most gratifying results are obtained by the hypodermic injections, which will generally at once suspend the severe pain of the accompanying intercostal neuralgia, and cut short the duration of the eruption. One of our most intractable forms of neuralgic disorders, is sciatica. In protracted cases, permanent relief cannot always be guaranteed, no matter what remedial agents are used, or the manner of using them, but subcutaneous injections of full doses of morphia steadily continued, will, in a majority of cases, finally cure, or at least palliate. If morphia fails, atropia should be tried, or both together. In most other varieties of neuralgia, localization is not necessary, but in sciatica it is believed that the best results are obtained by local injections; at any rate, in this disease, especially when of long standing, local injections have sometimes succeeded when remote ones had failed. For the relief of asthmatic paroxysms, hypodermic injections of morphia with atropia, in order to give large doses with safety, promptly relieve the paroxysms, lengthen the interval between the attacks, and render succeeding attacks milder, so that while we may not expect cure we may feel positive of amelioration. In the early stage of pleuritis the pain is immediately quieted, and

the morbid process arrested or diminished by injecting a medium dose of morphia. The earlier the injection is made the better, and in order to be effective must be made before effusion takes place.

The same observations are applicable to peritonitis. To relieve the pain and spasm of colic, whether it be hepatic, nephritic, renal, or uterine, no other means are so effective; but the most satisfactory results are obtained by combining atropia with the morphia. So also in many cases of colic due to constipation, the injection not only relieves the pain but overcomes the constipation. In severe and protracted emesis, a single injection will usually quiet the disturbance at once.

The hypodermic use of morphia, is often eminently successful in the vomiting of pregnancy. When life is being reduced to an alarming degree by the continual emesis, a daily morning injection, administered during the period of greatest difficulty, will enable gestation to proceed without danger to the mother, and without the necessity of adopting that serious alternative, abortion.

There is no better means of affording relief after fracture or dislocation, than morphia injected under the skin. It facilitates reduction, relieving completely the muscular twitching due to irritation from the fragments of broken bone. To relieve pain and maintain the necessary quiet of the parts after operations with the knife, it should be oftener used. The reduction of strangulated hernia is sometimes rendered possible, and an operation avoided by the same means. The subcutaneous use of morphia previous to the inhalation of an anæsthetic, aids materially in the production of anesthesia, prolonging the effect with much less of the anæsthetic than is required without it. Belladonna, next to opium, seems to me to be our most valuable and practical medicine for hypodermic use. Within certain limits the physiological antagonist of opium, it seems also within certain limits, when judiciously combined with it, to be synergistic in action.

I have several times alluded to the combined use of morphia and atropia; I shall now call more particular, though briefly, attention to the therapeutical application of this latter drug, noticing as briefly some of the indications and contraindications for its use. The sulphate of atropia, is the alkaloid chiefly employed for hypodermic use. Great discrepancies are to be found in the state-

ments of different authorities, as to the proper dose by the hypodermic method, being advised all the way from $\frac{1}{6}$ to $\frac{1}{120}$ of a grain. This descrepancy doubtless arrises from the great differences in the susceptibility to the influence of atropia found to exist in different people, children bearing a much larger dose in proportion than adults. Persons of light complexion are much more susceptible than those of a darker hue. As $\frac{1}{48}$ of a grain has produced serious toxic symptoms, I cannot understand how any one can be venturesome enough to recommend $\frac{1}{6}$ of a grain as a safe dose, and I should never commence with more than $\frac{1}{96}$ grain. A solution of atropia like that of morphia should be freshly prepared, though in two or three days it will suffer no material deterioration. The following formula is, I think, the most desirable :—

℞ Atropia sulph. gr. j.
Aqua distil., ℥j.
M.

Five mimins contain one $\frac{1}{96}$ of a grain.

In all inflammatory cerebral diseases the subcutaneous use of atropia is contraindicated, for its effect is to cause hyperæmia of the brain and meninges. Nor is it suitable in melancholia, for the reason that one of its physiological effects, in most persons, is to produce great despondency of mind. It is serviceable in delirium tremens when there is obstinate insomnia and restlessness, when the action of the heart is weakned, and the surface is cold and clammy. It is a very useful hypnotic in cases of wakefulness and coma-vigil dependent upon cerebral anæmia. In neuralgia, when used alone, atropia is not usually as effective as morphia, but as has already been shown their combined use is productive of much benefit. When morphia alone or morphia and atropia together fail, atropia should be tried. Atropia seems to be most effective in sciatica and tic douloureux, the injections in the former disease to be local, and in both combined with morphia in the proportion of $\frac{1}{96}$ of a grain of atropia to $\frac{1}{6}$ of a grain of morphia. The mere subcutaneous injection does not afford the same degree of relief, or curative power, as do the deep injections into the vicinity of the nerve trunk. In order to obtain the best results the dose

should be large enough to produce a decided impression on the cerebrum. These directions being observed, decided curative results may be confidently expected, but if disappointed in this, the relief will certainly be more than with morphia used alone, or when more superficial injections are employed. The same proportionate combination as before mentioned is suitable in most cases when both are indicated, and is effective in the beginning of an asthmatic paroxysm, but the dose must be sufficiently large to produce well marked physiological effects.

Asthmatics who suffer from dryness of the bronchial mucous membrane, and obtain relief when the secretion becomes abundant, should not be treated with atropia, lest it produce alarming dyspnea. Observing the development of the physiological effects of atropia, we notice a rapid increase of the heart's action, and rise of the body temperature, the pulse rising in a few minutes to nearly twice the normal number of beats. This increased action is due, first, to a stimulation of the cardiac ganglion of the sympathetic or motor power of the heart, and, secondly, to a paralyzing action on the inhibitory nerves, the terminal filaments of the pneumogastric.

Resting our observations at this point, we would at once assume atropia to be the physiological antagonist and proper antidote to be used against the toxic symptoms of certain agents, as aconite, veratrum viride, tartar emetic, digitalis and opium, which depress the heart's action So, indeed, it is within certain limitations, especially in the case of opium poisoning, but it must be used with extreme care. In opium narcosis, the injection of atropia should not exceed $\frac{1}{120}$ or possibly $\frac{1}{96}$ of a grain, repeated every fifteen minutes, until there is dilatation of the pupils, and then often enough to maintain slight dilatation. Successful antagonism will be indicated by increase of the cardiac movements, deeper respiration, rise of temperature, and flushing of the face. If three or four injections do not cause dilatation of the pupils, and other favorable symptoms, the further use of this agent should be abandoned, for while, in proper doses, atropia stimulates the action of the heart, in slightly increased doses it is a powerful depresant. To substitute belladonna for opium, narcosis would only increase the hazard, and

be a painful illustration of the old saw, "out of the frying pan into the fire."

The united action of these two remedies is to produce profound sopor, perfectly safe so long as the pulse, respiration, and reflex movements are in good condition. The effects of the conjoined use of morphia and atropia, by whatever mode of administration, is important and exceedingly interesting. Although physiological antagonists as respects a part of their action, the antagonism certainly does not extend through the whole range of their influence. Both act on the brain: morphia producing stupor, sommolence, and delirium; atropia causing delirium, hallucinations, and disturbed sleep. Both produce disorders of motility, vertigo, confusion of mind, and headache, yet when they are administered together, the reciprocal influence modifies in a remarkable manner the effects of each. Morphia arrests the illusions and phantasms produced by atropia, and the latter, in small doses, increases the hypnotic power of morphia, causing a less disturbed sleep than is produced by either alone. Morphia lessens and atropia increases the functional activity of the kidneys. The nausea caused by morphia is lessened or prevented by atropia.

The disorders of motility are enhanced by the mutual reactions of both agents. Morphia depresses the action of the heart, atropia is a powerful cardiac stimulant. Morphia produces pallor of the surface, and reduces the temperature. Atropia causes redness and injection of the skin and elevation of the body heat. Both produce dryness of the mucous membrane of the mouth and fauces. The after headache, vertigo, and depression of the heart's action, caused by morphia, are in a great degree lessened by adding atropia to the morphia. When a large quantity of opium or morphia is given, its immediate depressing effects are counteracted by the simultaneous use of belladonna or atropia, hence the necessity of combining them to insure safety.

The hypodermic administration of ergotin has not yet received the attention to which so valuable a therapeutical resource is entitled. Ergotin, as found in the shops, is not an alkaloid or active principle, but simply an aqueous extract. It varies much in strength, owing to faulty modes of preparing it, and is not infrequently inert. As prepared by Squibb, of Brooklyn, it is almost entirely soluble

in water, and represents good rye ergot in the proportion of one grain of the extract for five of ergot. It is always better to prepare the solution as required, and it should be rubbed up with fresh distilled or rain water, and then filtered. If necessary or desirable to preserve the solution, the addition of one grain of carbolic acid to four ounces of the solution will prevent any change for several months, and will rather increase the therapeutical power of the drug. The following formula, advised by Prof. Bartholow, may be used as a guide in the preparation of a solution :—

℞ Ergotin (aq ex.) ℈ij.
Aquæ distil. ℥ij.
M. Filter.

S. From five to twenty minims at each injection. But usually in using ergotin hypodermically, there is no time to rub up and filter, nor is there absolute necessity for preparing any solution, as the fluid extract may be used without dilution even, with little or no unpleasant result. The purified liquor of ergot, manufactured by Messrs. Parke, Davis & Co., Detroit, Michigan, is an elegant and eligible preparation for hypodermic use, prepared especially and ready for administration, but as it makes a perfect solution, I prefer administering it with an equal volume of water. Considerable pain, lasting for several minutes, frequently attends the injection, which may be followed by tumefaction, and sometimes hardening into a firm module at the site of puncture, but suppuration seldom (never in my practice) occurs. Frontal headache, giddiness, more or less dilated pupils are produced by full doses, in about twenty minutes. In an hour or two after the injection, women experience severe pain referable to the region of the uterus, and very much like the pains of the first stage of labor. Men, singularly enough, are not affected in like manner, but may, if the dose be large, experience more or less nausea, abdominal pain, dryness of the throat, itching of the extremities, numbness, vertigo, drowsiness, delirium and stupor, in short, the symptoms of acute ergotism. The therapeutical application of ergotin by hypodermic injection for hemorrhage in any situation not remediable by surgical means, is certainly one of the foremost, if not the foremost, remedies of modern medicine.

Especially applicable in all cases of uterine hemorrhages to which ergot is adapted, it is not more so than in hæmoptysis or hæmatemesis. Subinvolution of the uterus is most effectively treated by daily injections of ergotin, as well as chronic metritis by injections not oftener than twice a week. The hydated mole may be most effectively expelled by this method, which is equally effective in the expulsion of polypi from the uterine cavity.

In post partum hemorrhage, when to await the action of ergot by the stomach would endanger the life of the mother, the prompt subcutaneous injection of ergotin is attended with the happiest results, its administration securing effective contraction of the uterus and permanent arrest of hemorrhage. Its administration has been equally effective in nasal, intestinal, urethral, vesical, and renal hemorrhage. One or two hypodermic injections of ergotin will rarely fail to cure varicocele. The needle should be inserted so that its point will rest among the dilated veins; but great care must be taken to avoid puncturing a vein. Very severe pain follows, and there may be great faintness, but the effect subsides in a few hours, and it is rare for any considerable swelling to ensue. Varicose veins of the inferior extremities have been cured by the same treatment, inserting the needle so as to leave the injections alongside the vein, using extreme care not to puncture it. While the cure which follows in these cases may be in part ascribed to the inflammatory swelling which follows, there is doubtless an influence exerted on the vessel walls by the ergotin. In headaches of the congestive variety, but not in those of anæmia, it is equally efficient and curative.

Wanting personal experience with other remedies by the hypodermic method, I may here appropriately close my remarks upon the subject. These three remedies,—opium, belladonna, and ergot,—I have often employed in the treatment of some of the diseases mentioned. Their use is by no means limited to the cases cited, but are applicable to many others quite as important, perhaps, as any mentioned, but which, for the sake of brevity, I have omitted. My own experience having demonstrated the value of these remedies, I can readily believe in the utility of other agents, appropriately applied.

The results of this method have, in my practice, been so satisfactory that I have ceased to consider it a last resort, or even hold it in reserve until other less reliable means have been employed, but employ it early, unless, as is sometimes the case, positive objection is made by the patient. Whenever I have departed from this principal, I have regretted it. There is a prejudice, ill founded I believe, existing in the minds of some physicians against the hypodermic administration of any remedy, basing their objection to the method on the belief that it is dangerous, and sometimes kills. I do not doubt that fatal results have followed its employment, for which I blame not the syringe, but rather the carelessness of those who used it, in failing to properly note the indications or contraindications for its use. True, it may not always be possible to do this, for many times it requires finer powers of discrimination than are possessed by the ordinary man of physic. The stomach administration of aconite, nux vomica, morphia, belladonna, and other potent remedies, has been attended with fatal results. Who was to blame, then, the medicine or the one that gave it? Probably, neither. The inhalation of ether and chloroform has frequently resulted fatally, even in the hands of the most careful men; yet we do not hesitate to alleviate pain and suffering with them on all proper occasions, nor should we banish the hypodermic syringe from our armamentarium until objections to its use are sustained by better arguments and evidence than has yet been produced.

No one can be more sensible of the imperfect and crude manner in which this subject has been presented than myself. Those who desire a better and more exhaustive treatise,—and that is certainly desirable,—will find none better than Prof. Robert Bartholow's Manual of Hypodermic Medication, to which I confidently refer for authority on the subject.

NIHILISM IN MEDICINE.

BY D. W. JONES, M. D., PORTSMOUTH.

We live in an age of skepticism, and of independent thought. Everybody thinks, and everybody doubts. Not to doubt is to be dubbed by self-constituted judges of truth, either in religion or medicine, a fanatic or a fool. No man's opinions are considered binding, not even the man's from Heaven, who spoke as never man spake before. Fashionable doubters give rise to quacks, in theology and medicine alike. The quack in theology will give you his theory of the Godhead and of the divine mission: his theory. The quack in medicine will weave for you a theory of of disease and its treatment as weak as the "baseless fabric of a vision:" it is *his* theory.

And so, in this age, men theorize, and other men applaud. Hahnemann exclaims: "Eureka,"—I have found it,—the true system of treating disease; and soon the absurd notion is reëchoed around the globe. Why? Why is it that this quintessence of absurdities has received its modicum of popular favor? It is because of the plausibility of some of its fundamental doctrines.

The laity, however intelligent, know little of *similias*, or *contrarias;* but tell a superficial philosopher that medicine may be potentized, and the dose therefore infinitesimalized by shaking or trituration, and explain to him that these manipulations, by resolving the medicine into its ultimate atoms, thereby presents a correspondingly enlarged surface for action, and he can see at once that this is the most reasonable theory in the world. He immediately absorbs it, and proceeds to enlighten his more ignorant neighbor; and so these disciples of small things in medicine are manufactured.

But here let me say, it requires a mind of sufficient magnitude to comprehend these things. It must not be above the mediocre, it certainly must not be below. A man of profound thought would, and generally does, penetrate its fallacies at once. A man of no thought, or he who makes no pretentions to small philosophy, will be led by his instinct, and this, true as the plummet to the line, in nearly every case rejects homœopathy.

It is generally your one idea man who adopts an exclusive dogma, and that one idea is to make money; to make money, regardless of the interest of those, who, in confidence, have committed their lives to his care, and regardless of his own convictions of right and duty; in very many cases practicing the art of the hypocrite and deceiver that his own selfish ends may be secured. For example: having become the medical attendant of a family, whose physician had removed from the city where I reside, I one day chanced to see upon the window-casing an ounce vial, which by the label I saw had contained one thousand granules of morphine, one eighth of a grain each. This was distinctly stated upon the label, and, so far, all was honest. But knowing the family had for some time patronized Dr. ——, a homœopathic physician in good standing, I was somewhat surprised to see this bottle there. Upon questioning the lady, she informed me that Dr. —— had ordered the pellets for neuralgia, and that they always did her good when she took one; she, in good faith, attributing the results to the remarkable effects of homœpathic medication, in blissful ignorance that she was taking the regular adult dose of morphine.

Said an intelligent German physician to me a short time ago, "Homœopathy has died out in Germany, is on the decrease in England, and there is very little of it in France." This gentleman was educated in the school of Boch and Opelzer, inheritors of Schonlein's views,—to be referred to hereafter,—and taught that to oppose disease was worse than useless, because the attempt would throw an additional obstacle in the way of its natural course; and so, thinking this "masterly inactivity" could best be practiced under the guise of homœopathy, he adopted that system as a means to an end, and that end, *not* the curing of patients, but the procuring of fees. Or, as Dr. Harvey, in his "First Lines in

Therapeutics" (a work of considerable merit, and abounding in original thought, but too closely approximating homœopathy in its practical teaching to be useful as a guide to the aggressive physician) says: "We may have the inexpressible satisfaction of thinking that our practice is a partnership concern of the best kind, nature doing the best part of the work as regards the cure, but handing over to us the fees for the work done, and with the fees the credit of the cure." To receive this double emolument of both fees and credit, when we know ourselves to be worthy of neither, appears to me to approximate rascality. True, the relief from mental strain and disquietude, resulting from such a practice, must be immense when contrasted with the thoughtful care necessary to originate the prescription adapted to a case in hand, and the anxiety more or less attendant upon its operation; but the conviction of duty honestly done, of an honest equivalent rendered for fees received, must be vastly more satisfactory to the conscientious practitioner.

We borrow our ideas from a nation of doubters and theorists. Two of the most prominent of these, and whose teachings have exerted the most influence upon the medical practice of this age, were Hahnemann and Schonlein, the latter assuming the impossibility of controlling disease, the other asserting the discovery of a law of cure. Hahnemann was born in 1755; Schonlein, not until thirty-eight years afterwards.

The founder of homœopathy cured disease by doses, and, in many cases, a single dose of medicine so inconceivably small as to be inappreciable to the senses; the other arrived at like happy results by the use of no medicine at all. We see that this nihilism in medicine is a growth of comparatively recent date. Stahl, also, in Germany,—that land of expectant medicine, and medicine potentized through the wonders of homœopathy,—at the beginning of the century, first gave birth to his theory of the *conservatrix et medicatrix naturæ*. The wonderful recuperative powers of nature seemed to give plausibility to the theory, that the human soul did actually preside over and conserve the integrity of the human system, preserving it from injury, and repelling the inroads of disease. The natural outgrowth of such a belief would be the expectant plan of treatment. And to-day, though theories differ,

the practical results are the same, whether we believe that disease, by self-limitation, cures itself, or whether an intelligent *vis vita* opposes diseased action.

It has become fashionable, in certain quarters, among those of the regular profession, and even some of those who are recognized as the teachers of our art, to sneer at drugs and the possibility of cure. Not long ago, in commenting upon an acute case to a worthy confrère, I incidentally spoke of the "cure." "Cure!" said he, substantially, "you can never cure acute disease. The patient gets well, or dies, in spite of your treatment."

Can disease be cured? I use the term cure in its conventional, and not in its etymological sense. Do remedies cure disease? I think they often do. How, or upon what principle, or under what law, do they act? I might answer, "*contraria contraris curantur*," and would only be partially right. The most cursory observer cannot have failed to see the doctrine of similars occasionally verified. Dissertations upon the cure of disease by *similias* were written in Germany before Hahnemann was born. In an editorial in the Medical and Surgical Reporter, during the last year, the writer, referring to a lecture by Dr. B. W. Richardson of London, culls the fact, that Albertus, a celebrated professor in the University of Halle, during the first part of the eighteenth century, wrote, among numerous other works, three dissertations upon the cure of disease: *per expectationem*, *per contraria*, and *per similia*. So that the modern disciple of Esculapius can take his choice from either of Albertus's essays, though written over one hundred and fifty years ago, and not be behind his own time. The *prudent* physician will practice no exclusive dogma, will erect for himself no undeviating method of treatment, or law of cure.

Now our homœopathic brethren claim to *cure* disease, to cure disease by specific remedies, operating under the assumed law, "*similia similibus curantur*." In so much, the teachings of Hahnemann are superior to those of Schonlein. The one talks of "cures" and "specifics," thereby inspiring hope and confidence, even though based upon a delusive and treacherous foundation; the other talks of natural limitation, if he talks at all, or, perhaps thinking "discretion the better part of valor" in the fight against disease, he *nihil decet* as a fit accompaniment of that *nihil facil* of

which he is already guilty. One professes to have discovered the philosopher's stone of therapeutics, and has a specific for every disease; while the other has not only given up the search, but denies the existence of all therapeutic art in the cure of disease. One of the most potent causes of success of specific medication, whether of homœopathy or eclecticism, is the positiveness with which the promise of aid is given, either against disease, or a group of symptoms in a specific disease. The homœopathists encourage their patients to lay hold of the anchor of hope, and declare they can *cure;* while the conservative declares disease cannot be cured, but must pursue an uninterrupted course.

There can be no doubt, when the science of medicine becomes more scientific, or when those laws of classification and investigation which are applied to other sciences can, to a greater degree, be applied to medicine, that the great arcana of nature, contained in the vegetable and mineral resources of our art, will be intelligently applied to combat certain pathological conditions with a certainty of amelioration, or cure, not now possible. It is true, medicine never can become an exact science; but the nearer we can approximate our therapeutical appliances to the diseased condition, with the hope of affording relief or cure, the nearer we approach the *ultima thule* of the medical enthusiast.

That time, however, has not yet arrived; and any attempt to force it upon the profession, until etiology and pathology have advanced *pari passu*, will only result disastrously to its advocates and obstructively to the profession.

In a given case, is our object to cure, or only to mitigate symptoms and guide the course of disease? Our first object should be to cure, if possible; failing in this, the latter course must guide, and a wise combination of both objects, with proper discrimination with regard to cases, will ensure the best results. For instance: I am called to a man with strong, full, and rapid pulse, dyspnœa, with cough, pain, crepitant rale, rusty expectoration, and perhaps dullness on percussion; and I say he has an attack of acute pneumonia. I give, probably, three drop doses of the fld. ext. of veratrum viride, every two hours. I instruct the attendant, if the person be one of sufficient intelligence, to time the pulse, and when they have fallen to below one hundred to

give one half the dose, or lengthen the interval between the doses until I see him again; if nausea or vomiting ensue, to suspend the remedy altogether. By these means I produce, in many cases, an artificial crisis, which cuts short, aborts, or cures the disease. Use whichever term the fancy dictates, the *disease* is cured. The temperature will not rise again, and the patient is convalescent. This is no fancy dream, but one of the most intensely real occurrences of practical medicine. What can be done with pneumonia, can be done with pleurisy, pericarditis, peritonitis, and the whole list of the acute phlegmasia. They can be cured, in a large proportion of cases, as absolutely and completely as an aching tooth is cured by extraction.

Can we relieve pain? Then we cure it. Can we control a diarrhœa, remove a cough, stop an ague? Then we cure them. Let it be understood, I believe in curing disease, but not *all* diseases. Because some diseases are self-limited in their nature, to say that *all* are so is a *reductio ad absurdum;* because it can easily be proved that some diseases are not self-limited, unless, indeed, we mean by self-limitation, not the recovery from disease, but the death of the patient. Phthisis is a notable example of this, notwithstanding the affirmative assertion of that great apostle of "self-limitation in disease," Dr. Austin Flint.

To treat scarlet fever as I would pneumonia, with the idea of aborting, would be, with our present knowledge, not to cure the disease, but to kill the patient. But who shall say that a specific treatment may not soon be discovered against this scourge of childhood, as well as against small-pox, syphilis, whooping-cough, ague, gout, etc.?

The two forms of nihilism most popular at the present time are homœopathy and conservatism. The latter term not to be used in accordance with its etymological meaning, for from this no reasonable physician would for a moment dissent, but in the sense which conventionality has attached to it. These two forms of nihilism were but the outgrowth of a reaction against that pernicious freedom in the use of the lancet, and polypharmacy, which prevailed at an earlier period. If compelled to choose either as a system of practice, I should infinitely prefer the former, as in its present tendencies affording a better hope of favorably influencing disease;

for while the former is gradually tending towards rational medicine, the latter is utterly abandoning all reason. With the vast resources of an exuberant *materia medica* at our command, that man or system which gives entire credit to nature in the cure of disease is worse than a homœopathist. He errs less who credits nature with nothing, than he who credits her with everything.

I think it can be proved from their own reasoning, that the modern radical conservative and the new school of homœopathy are both practicing upon the same principle, and both should be reckoned beyond the pale of the regular profession. True, the "conservative" system has not been elevated to the dignity of a school, and has no organized system of teaching; but what is worse, its pernicious doctrines are being instilled into the minds of the unsuspicious and inexperienced, leading to what Cullen observed nearly a century ago, and which is just as true to-day as it was then, viz.: "That the hypocratic method of curing has often had a very baneful influence on the practice of physic, as leading physicians into, and continuing them in, a weak and feeble practice, and at the same time superseding or discouraging all the attempts at art." Let us examine the two a little in detail, and see if some of the statements cannot be proved. Let us look first at homœopathy. The three fundamental principles of homœopathy, as enunciated by Hahnemann in the Organon, were: 1st. The law by which diseases were cured, *similia similibus curantur;* 2d. The infinitesimal dose; and 3d. The theory of potentization.

I am not writing an essay upon homœopathy, and therefore will merely say that I am glad to believe that the high tide of this absurdity has been reached; and within the last few years the receding tide has left stranded upon the sands two of its fundamental principles.

If I have a correct understanding of the matter, no homœopathic school of medicine, to-day, teaches the strict adherance to the infinitesimal dose. So that the recent licentiate of the system may say, as one not long ago said to me: "I have as good a right to use hydrocyanic acid as you have, and in just as large doses, if I please."

The advanced school of homœopathists would have us distinctly to understand that they are not practicing an exclusive dogma,

but having discovered what they deem the most perfect rule of practice, are liberal and progressive in their views, while we, who profess to practice rational medicine, still cling to the old exploded notion of "*contraria contraris curantur*," and consequently are narrow-minded and sectarian in practice.

In proof of the statement of a decided weakening of faith in the theories of "potentization," and the "infinitesimal dose," I quote from a paper read by Dr. H. M. Paine, of Albany, before the Homœopathic Medical Society of Northern New York, at its annual meeting, held July 8, 1879:—

"This theory of dynamization, if it means anything, means that the medicinal activity of drugs is increased by subdivision and succussion. Increased power through succussion is one unsupported by any known facts in physics or physiology. If we accept the views of modern chemists and physicists, that matter is not infinitely divisible, and accept the asserted weight of the ultimate atom of hydrogen, we find, when homœopathic dilutions have reached to about their tenth attenuation, that the last molecule of the drug is somewhere in the bottle; but in going to their next higher dilution, the chances are just ninety-nine to one it will be kept out of the succeeding vial, and all after that will be well shaken alcohol with no drug left. It was to escape this obvious dilemma that the dynamization theory was invented. Granting the gradual extinction of the material portions of the drug, Hahnemann claimed that there yet remained a spiritual essence capable of infinite diffusion, which, when stirred by shaking, was enabled to produce the most extraordinary results. It is this theory that this Society at its last annual meeting formally abandoned.

"Dr. Samuel Potter, in his admirable and unanswerable argument, entitled, 'The Logical Basis of the High Potency Question,' page 9, states, substantially, that chemistry is unable to furnish proof of the material presence of the medicine beyond the third potency; the spectroscope gives no evidence beyond the fifth; the microscope none beyond the seventh.

"Science, therefore, fails to demonstrate the presence of the drug in any higher attenuation than the tenth, or eleventh.

"The causes which have led to the adoption of this strange and visionary phase of homœopathy, have originated in the acceptance, without sufficient and thorough investigation, of the fallacious doctrine of the minimum dose. and the absurd and unphilosophical theory of dynamization."

"Let us, then," this same gentleman goes on to say, "as representatives of that which is rational and conservative in the homœopathic school, recommend discarding the theory of dynamization and the doctrine of the minimum dose."

Dr. Paine proceeds to say. that the only way to preserve the interests of homœopathy is by "disassociating it from these doctrines." Be it understood that this paper was received with favor by said Society, and resolutions in accordance with its spirit were passed, and a committee appointed to collect evidence bearing on the law of potencies. The same gentleman, in a paper entitled "Are Homœopathists Unsectarian?" in commenting upon a resolution adopted at the meeting of the American Institute of Homœopathy, in June, 1871, says: "This resolution was intended to rebuke sectarianism in the so-called regular school; its application at the present time seems very appropriate, on account of the exclusiveism of strict Hahnemannians, those malcontents in our school who are still diligently nursing the theory of the universality of the rule similia, the theory of the minimum dose, and the theory of dynamization,—dead issues, which have long since been discarded by a majority of homœopathists."

These are the words of an active homœopathist of the new school, and should be entitled to the respect which the author's standing demands. "Dead issues, which have long since been discarded by a majority of homœopathists." The same writer says: "The law of potencies is one of the most singular forms of idealism ever seriously entertained by the medical profession."

The report of the committee on the "Milwaukee test" of the efficacy of high dilution, made a year ago last January, conclusively prove that high potencies have no effect upon the human system. The test proposed by Dr. Sherman to the "Milwaukee Academy of Medicine," in brief was this: Vials numbered from one to ten were to be furnished to any number of applicants; nine of these vials to contain pellets moistened with alcohol, and one to contain pellets

of the thirtieth Hahnemannian dilution of aconite; the bottle containing the aconite to be unknown to the prover, and he to select it from the others by its remedial effects.

The Homœopathic Medical Society of the State of New York, at its meeting in 1878, passed, after considerable wrangling between the "liberals" and the "exclusives," the following resolution: "*Resolved*, That in common with other existing associations which have for their object investigations and other labors which may contribute to the promotion of medical science, we hereby declare that, although firmly believing the principle of '*similia similibus curantur*' to constitute the best general guide in the selection of remedies, and fully intending to carry out this principle to the best of our ability, this belief does not debar us from recognizing and making use of the results of any experience, and we will exercise and defend the inviolable right of every educated physician to make practical use of any established principle in medical science, or of any therapeutical facts founded on experience, as far as, in his individual judgment, they may tend to promote the welfare of those under his professional care."

At the meeting in 1879, an attempt was made to expunge the above resolution, and a committee of five was appointed, which subsequently reported a declaration of principles, which were adopted for consideration one year later. The third section makes the following declaration: "That we do not yield one tittle of our rights as physicians to use any means or appliances of the general profession to aid in the treatment of our patients, or in the palliation of their suffering, leaving the question of such use to the individual judgment of the practitioner."

But the "exclusives" are not all dead, or converted to the new school of thought. Why, a physician at the last meeting of the Society which passed the above resolutions related a case of prolapsus of the rectum of forty years' standing, cured in a few months by the use of "nux" of the thirtieth potency. The same physician proceeded to state that of late years he had scarcely ever given calcaria carb. lower than the fifteenth potency. When we consider the powerfully toxical effect of bones and oyster shells, particularly when swallowed whole, we can but admire the prudence of this physician in triturating the remedy to the fifteenth

potency. Another physician related a case of dysentery cured by a single dose of the same remedy, of the two hundredth potency. When we consider for a moment what these potencies mean, we shall be struck with the absurdity. For instance: one grain of this powerful medicine, calcaria carb., is triturated with ninety-nine grains of some inert material, generally sugar of milk, and the trituration to last one hour per potency, according to Hahnemann. This is the first attenuation, or potency. The second consists in taking one grain of this triturated medicine and mixing it with another ninety-nine grains, and so on to the two hundredth or millionth potency, if desirable. At a meeting of the New York State Homœopathic Medical Society, a member remarked that he frequently used the millionth potency of homœopathic remedies.

Let us now look at "conservatism" for a few minutes. When men disclaim the utility of all medicine to cure, control, or abort disease by therapeutic agency, then they certainly may be classed with those who believe in the efficacy of the infinitesimal dose, so far as the practical result of their teaching is concerned, and both be ranked as nihilists in therapeutics. Because disease in a large proportion of cases tends to recovery, is no argument for an indifferent supervision of its course. A certain proportion of cases will be *fatal*, and it is of the utmost importance, in order that we may give our patients the best advantages for recovery, that we ascertain what treatment will mitigate symptoms and reduce the death rate to its minimum. Most diseases, it is true, tend to recovery, but we never can be sure that the case in which we least expect an unfavorable issue may not be the fatal one. There always exists a certain ratio of deaths to recovery, and this ratio is increased as the hygienic surroundings and clinical treatment of the patient are neglected or mismanaged. It is not my object in this paper to combat judicious conservative practice, but to strike one blow, be it ever so feeble, against that ultra form of it which degrades its advocates to a lower plane of nihilism than the most "exclusive" of Hahnemannian homœopathists. Judge whether it does so or not from these two quotations: Harvey says, page 135, drugs "have no specific curative power;" "every disease has its specific remedy," says homœopathy.

What is meant by "self-limitation in disease?" According to Dr. Bigelow, "a disease which cannot be abridged or shortened." This definition has naturally given rise to conservatism or nihilism in practice, and as Dr. Flint expresses it in his essay on "Conservative Medicine," the conservative practitioner "appreciates injurious medication, and hence does not run the risk of shortening life by adding the dangers of treatment to those of disease." Of what use was the value of exact diagnosis, which Schonlein taught the great necessity for, if the medical attendant was to be the quiet and inactive spectator of its progress. A wooden man would do as well. Yea, far better for the pecuniary interests of his patients; for what sane man would consent to trust his life, and health, and pocket-book, to one who could not even fill the miserable office of a "scarecrow." In vain the watchman guards the citadel, if there be no note of warning or defence. In vain the sentry of human life, the defender of the citadel of life, stands guard at its portals, if with glued lips and bound limbs he confesses his helplessness to raise one note of warning against the foe, or lift an arm in defense of his custody. If there is to be no active opposition made to disease, lest we should throw obstacles in the way of nature, and the cure to be intrusted mainly to her hands, then the correct principle of practice, if any remedies are administered, is the law of similars; and thus our conservative practitioner becomes, before he is aware of the fact, a homœopathist of the new school.

A remedy producing a set of symptoms analagous to a given disease, would seem to aid, as it is said, in "concoction and elimination," or as Dr. Joslin says, in his "First Principles of Homœopathy:" "Two vital actions, in every respect similar, must involve the same parts even to microscopic precision,—the same tissues, the same fibres, the same particles. To employ a similar irritant is to meet the disease directly in its own home. If the similarity is perfect there can be no active opposition set up entirely foreign to the disease." Now, Mr. President and Fellows, can you see any difference between this language and the following: "Art must move in the lines of nature." This from Dr. Harvey's "First Lines in Therapeutics." The same conclusion is reached from an opposite method of reasoning. For if medicines move in the lines of nature, as Dr. Harvey says they must, they certainly can-

not move in a contrary direction; and the theory, not to say law, of "contraries" must be abrogated, even as an occasional method of practice.

Obsta principiis is a Latin maxim, containing within its six syllables as much sound wisdom, if practically followed, as any other words of equal length in any language; and the wisdom of which should always govern us in the treatment of disease.

It is in opposing the beginnings of disease that the great efficacy of active medical treatment may be shown. Admitting all that may be said with regard to self-limitation with reference to some diseases, the possibility of obstructing the course of others, even when fairly inaugurated, I think must be admitted by all candid observers of experience whose minds are not warped by prejudice or fixed by an inordinate affection for their own pet theories to a single groove of thought. *Obsta principiis* is just as applicable in therapeutics as in mechanics. A slowly-moving train, upon a down grade, may have its speed easily retarded by the early application of the brakes. Let the velocity be increased, and no effort made to retard the motion, and the train, with its living freight, may be dashed into the valley below. So in pneumonia, for instance. To stand idly by, as some conservatives would, and let the manifestations of disease control the central organ of life, paralyzing, perhaps, its inhibitory nerve centre, and letting the machine move with such abandon and velocity as threaten to tear every barrier down before its fury, when the brakes, held by a skilful and experienced hand, could just as easily be applied to control its movement, is almost criminal. True, there is but one remedy in all the pharmacopœas of the world that will do this satisfactorily (but one is enough), and that remedy is veratrum viride. As the brakes to a runaway train, or the governor to a steam engine, so this remedy will control with precision and accuracy the heart's rhythm.

I think there can be no greater mistake, nor one fraught with more disastrous results to both patient and physician, than the idea that pneumonia belongs to that class of diseases which limit themselves, and cannot be limited by artificial means, and binds the physician to be an impotent spectator. True, the disease has, if left to itself, a definite course and history; but this need not lead

to that supine indifference and "masterly inactivity" so much commended by some modern authors; on the contrary, taking pneumonia as an example of that large class of diseases included under the phlegmasia, and not forgetting that some modern authors have included it among the essential fevers, I venture to say from personal observation and practice that a large majority of cases may, by appropriate treatment, be successfully aborted. If nature ever does this, why may not art? Even Dr. Flint, himself, says in relation to phthisis: "I have been led to believe that phthisis not infrequently ends by self-limitation before it has made sufficient progress to develop well-marked physical signs." In other words, there are abortive cases of this as of *other diseases*. Now, if this can be done, how will we do it? I do not propose here to enter into a discussion of the merits of calomel or bleeding. They are at present under the ban of the profession, excommunicated by the anathemas of their friends, lying under the curse of professional interdiction, out of deference, mainly, to the sickly nihilism of homœopathy. True, they are agents potent for evil, capable of breaking down the constitution and destroying life, when carelessly used; but that they are also powerful in opposing the progress of certain forms of disease cannot be successfully gainsaid. But it is not of these two remedies I wish particularly to speak in this paper, but of another equally powerful in controlling disease, and not open to the objection of reducing the strength. I speak of the remedy already alluded to: veratrum viride. In a paper upon this drug, which I had the honor to read before the New York State Medical Society, in 1871, and which was published in the transactions for that year, I used the following language, and after ten years' subsequent experience, here reiterate it: "In regard to the drug under consideration I venture to make the assertion, that however well established its therapeutic value or well defined its physiological effect, a great majority of our profession fail to recognize its importance or avail themselves of its potent properties. There are various reasons for this. By some it is regarded as too powerful a remedy under any circumstances to be left at the bedside of a patient. Having seen its effects culminate in apparent general prostration and dimunition of vital action, they become intimidated in their use of it, and, if they

prescribe it at all, it is in infinitesimal doses, which fail to produce its specific effects, and so the remedy in their hands falls into desuetude." After an experience of about eighteen years with the drug, I can say now, as I said then: "It possesses the most powerful remedial effects, is adapted to a greater variety of cases, is the most certain in its action, the most satisfactory in its results, and, when judiciously employed, as safe in its administration as any other remedy in the materia medica," belonging to the same class. At the same time let me remark that, while perfectly safe in the hands of a man of experience and carefulness, in ignorant hands may do much harm. What hewer of wood or stone could work with a dull adze? It may be perfectly safe, but just as perfectly useless to accomplish the workman's purpose. The tool must be sharp, and the workman skilful, or the "rough ashler" could never be made smooth. So with remedies, and this one in particular. Used carefully and understandingly, they often conquer threatened attacks of disease and mitigate unfavorable symptoms; but used carelessly, or ignorantly, may destroy life.

Dr. Flint says that, "the conservatism of present practice is strikingly shown by the 'relinquishment of potent measures to break up the continued fevers,'" and "it is not long since physicians conscientiously believed that they often strangled diseases, which now they are content to allow to run their course." The inference from such quotations would be that it was useless to attempt to break up a fever of any kind. Certainly such teaching as this can but diminish the usefulness of the rising generation of medical practitioners. For, as has already been stated in the treatment of threatened attacks of pneumonia, peritonitis, and all other diseases attended by high febrile phenomena of the sthenic form, every physician of much experience, and whose mind has not been tainted by these heterodox notions of disease, knows that this can often be done. It is the present generation of students of medicine whose minds are being filled with this German idea of donothingism in disease, and which must result most disadvantageously to their patients. Said one of these theorists to me, not long since: "Why, I do absolutely nothing for diphtheria, and my cases do well;" and I am here constrained, yet sorry to say, that one of our honored confrères, whose presence now graces

this hall, announced his confidence in the same method of practice, in my presence, not many weeks ago. I think in this disease remedies exert an unmistakably curative effect. How quickly an ordinary attack, with all its febrile and exudative phenomena, will yield to the proper remedies, such as the tincture of ferri chloridi with chlorate of potassa internally, combined with the application of the subsulphate of iron, or Monsel's salt, to the throat. Every day's experience and contact with the professional "old woman" teaches a different lesson. The continued fevers can, in a large proportion of the cases, be aborted. Tisanes, sweats, and hot foot-baths, are highly beneficial, to say nothing of the more powerful means, such as quinine, Dover's powder, and veratrum viride. One of the most common experiences of everyday life is that of breaking up a cold or fever. No one knows but those who have experienced it the great derivative action of the hot foot-bath in relieving bronchial congestion, or the immensely enhanced effect of a single dose of quinine. Such simple treatment often aborts a threatened attack of pulmonary disease. Such facts, to those who do not know otherwise, might seem to be uncontroverted. But if nature is her own physician, and art merely auxilliary, as the most liberal of conservative practitioners say, then nature ought to put forth her mightiest efforts to oppose beginnings, and show her superiority to art in suppression of diseased action. Take a common cold, with a stitch in the side, as the saying is. A foot-bath, a mustard poultice, and ten grains of Dover's powder, at night, will oftentimes, like a trained pugilist, plant a blow squarely between the eyes of its opponent, rendering it powerless for further effort or opposition; but left to itself may end in pleurisy, or pneumonia. Here is a fair field for comparing the relative merits of nature and art, and here the great superiority of art is most markedly manifest, clearly showing that in many cases nature is powerless to aid herself; but there is a constant increment of the diseased action until the crisis has been reached.

To our care, my confrères, is committed the precious boon of human life and health. Shall we admit our inability to conserve the one or restore the other? No! But adhering to that safe old Latin maxim "*in medio tutissimis ibis*," let us not run to extremes in either direction, for in a middle course there is safety.

By the younger members of this Society I may be considered guilty of "old fogyism;" but I am too young to be called an old fogy and too old to be stigmatized as "young physic," and so I choose to style myself, not simply a rational practitioner of medicine, but a practitioner of rational medicine.

DEATH: ITS PHYSICAL ASPECT.

BY A. P. RICHARDSON, M. D., WALPOLE.

As the average physician may "sometimes in church-yards stray, and gaze on the crosses and tomb-stones," in that village of the dead, which is hard by his home in the village of the living, he may reflect pensively upon the grave fact that he has witnessed the closing scenes of scores or hundreds of the silent sleepers. Many have fallen into their places like a shock of corn fully ripe, while others have been swept away by the fell hand of disease, or accident, before the maturity of age. In the assemblies of the living he may behold the cheerful faces of many whose lease of life is due to his skill and patient attention. It is sometimes his experience to witness a birth and a death in close juxtaposition, the one following the other in a brief hour, on which occasion he may feel that these august events are verily in his hands. If in advanced life, he has witnessed in his time the coming and the going of a generation.

We cannot hope to banish death from the world, yet it is often given us to foil its early approach, and, when it comes near, to mitigate its pains. How exalted that calling which has within its care the earthly comfort and even existence of man.

One year ago an eloquent paper was presented to this body, entitled "Suspended Animation," in which was considered that "state which is neither life nor death, wherein the vital functions are at a pause." To-day, you are invited to consider for a brief period the condition of absolute death and some of the processes and appearances leading to that condition.

Death scenes are in high favor with certain lovers of the drama. Sara Bernhardt has given us three distinct types of death. In

Adrienne, she rises to her feet and falls rigid in the arms of Saxe and the prompter, and dies screaming. In Frou-Frou, she sinks on the sofa, and gently glides with the stream of time over the precipice of death. In Camille, she twirls round and round, and, with an exclamation, falls flat upon the floor. In the midst of her physical agony, she prays at the top of her voice that she may be allowed to live. This is not truthful. Death does not come thus in nature. A realistic conformity to nature would show her exhausted and silent before she breathed her last. Such scenes as those upon which the curtain falls in Hamlet and Othello are often grossly materialized and degraded.

Poets describe death as a terrific being; but the best artists of the Greeks, avoiding anything that might be displeasing, represent death in a somewhat pleasing aspect. At Sparta, there were statues of both death and sleep. Both were usually represented as slumbering youths, or as genii, with torches turned upside down.

Death has been called the opprobrium of the practice of medicine. So, the man suffering under an incurable malady may consider himself a living, yet dying monument of medical inefficiency.

It is true, death will surely come to all, and no mortal power can ward off the fatal shaft forever, for the almighty decree has gone forth that it is appointed unto man once to die. Neither the fountain of youth, nor the elixir of life, so long sought and promising the continuance of youth, have yet been found. Still, it is true, that the physician holds some sway over the powers of life and death. It is one of the holy prerogatives of his art that he may mitigate and assuage, even if he cannot heal.

The theologian exhorts us to study the spectre of death face to face at times, to strengthen our souls by meditation on our last hour. So medicine deems it essential to direct attention to all the details of that "mournful drama," that we may have a clearer knowledge of life. From the relics of death are obtained many of life's secrets. Bodies were once dissected for the purpose of studying the normal arrangements of the organs. Afterwards, and chiefly in the last century, science took up the methodical inquiry into the changes produced in the different parts of the body by disease. Said John Hunter to one of his students, pointing to

some dead bodies: "These are the books from which you will learn under my direction." The theories of life and death have grown up together, the one shedding light upon the other.

Bichat, the greatest of the physiological historians of death, determined the fact that life is seriously endangered only by alterations in one of the three essential organs, the brain, the heart, and the lungs. The death of one of these three vital organs assures that of the others, and the gradual stoppage of all the functions.

"As to their vital significance," says Dr. William Fraser, "man's functions may be classified into essential and supplemental; the former including such as cannot be discontinued beyond a brief interval without fatal consequences; the latter, such as may be suspended or even destroyed without involving general dissolution. Thus, although sight is important to comfort, it may be lost without effecting vitality; the hepatic function may be vicariously performed; even the renal secretion may be suspended for a considerable time without death; but the complete cessation of any of the essential functions of circulation, innervation, or respiration, must be speedily followed by such a result. By the circulatory forces a constant flow of blood is directed to and from all the parts; by the nervous system an alternating effect is produced on all the tissue elements, whereby at one time they assimilate, at another, disintegrate; by the respiratory apparatus certain of the resultant products are incessantly eliminated. These three complemental functions are so interdependent that the complete interruption of one necessarily leads to arrestment of all, and consequent death."

The late Prof. Faraday adopted the theory that the natural age of man is one hundred years, which is also the opinion of others who are competent to speak authoritatively on this point. But facts tell us that the actual average age of man is less than one half this period of years. The man who does not die from sickness or accident lives everywhere from eighty to one hundred years. The duration of life is believed to be measured by the time of growth, most animals occupying one fifth part of their natural lives in growing. So man, being twenty years in growing, should live five times twenty years.

In a natural life, we behold the babe, the boy, the vigorous youth, the straight and sinewy man, the bended frame, the whitened hair, the easy death, the rigid form, the dissolution of the body.

Bichat distinguished organic life from animal life. Vegetables have only the former; animals possess both, intimately blended. On the occurrence of death these two kinds of life do not disappear at one and the same moment. It is the animal life that suffers the first stroke; the manifest activities of the nervous system are those which come to a halt before all the rest. We may consider separately the order of occurrences in death from old age, in that occasioned by disease, and in sudden death. Says a French writer, Fernand Papillon, in an interesting article on "The Physiology of Death," in the Popular Science Monthly: "The man who expires at the close of a long decline in years dies in detail. All his senses in succession are sealed. Sight becomes dim and unsteady, and at last loses the picture of objects. Hearing grows gradually insensible to sound. Touch is blunted into dullness. Odors produce but a weak impression. Only taste lingers a little. At the same time that the organs of sensation waste and lose their excitability, the functions of the brain fade out little by little. Imagination becomes unfixed, memory nearly fails, judgment wavers. Further, motions are slow and difficult on account of stiffness of the muscles; the voice breaks; in short, all the functions of outward life lose their spring. Each of the bonds attaching the old man to existence parts by slow degrees. Yet the internal life persists. Nutrition still takes place, but very soon the forces desert the most essential organs. Digestion languishes, the secretions dry up, capillary circulation is clogged, that of the larger vessels in their turn is checked, and at last the heart's contractions cease. This is the instant of death. The heart is the last thing to die. Such is the series of slow and partial deaths, which, with the old man spared by disease, result in the last end of all. The individual who falls into the sleep of eternity in these conditions dies like the vegetable, which, having no consciousness of life, can have no consciousness of death. He passes insensibly from one to the other, and to die thus is to know no pain. The thought of the last hour alarms us only because it puts a sudden end to our relations with all our surroundings; but if the feeling of these

relations has long ago faded away, there can be no place for fear at the brink of the grave. The animal does not tremble the instant before it ceases to be."

But it is not often that we see a death of this kind. We may regard it as phenomenal to see a death from old age. Most commonly there is some disturbance of the functions of the vital system, sometimes sudden, sometimes gradual. There is a great variety in the modes of ending animal life. One of the most usual is through the lungs; as a result of pneumonia, and different forms of phthisis, the oxidation of the blood becomes impossible, and venous blood goes back to the heart without gaining revivification. In the case of serious and prolonged fevers, and in infectious diseases, whether epidemic or otherwise, which are, characteristically, blood poisonings, death occurs through a general change in nutrition. Still more is this the fact as to death consequent upon certain chronic disorders of the digestive organs. When these are affected, the secretions of those juices for dissolving food become modified, and the person dies from want of assimilation.

Hemorrhage is one of the common causes of death. Let a great artery be opened from any cause, permitting a copious outflow of blood, the skin grows pale, warmth declines, the breathing becomes intermittent, vertigo and dimness of sight follow, the expression of the features changes, cold and clammy sweat covers the face and limbs, the pulse grows weaker, and at last the heart stops. Virgil describes hemorrhage with striking fidelity in the story of Dido's death, ending which he says:—

> "Omnis et una
> Dilapsus calor, atque in ventos vita recessit."

Sudden death may occur by outward and accidental causes, as in drowning, freezing, or burning, and in various other ways. A mortal swoon may be produced by very violent impressions on the feelings, checking abruptly the movements of the heart. Thus persons have been known to die of joy and of fear. In apoplexy, if death is not instantaneous, the sufferer is plunged into a state of coma, the pulsations of the heart cease little by little, and soon life utterly vanishes. The breaking of an aneurism is often the cause of sudden death. Oftener still is death caused suddenly by embol-

ism. This may occur while one is recovering from acute disease, as in pneumonia or diphtheria, when it may be said the patient dies while convalescing, paradoxical though it may seem.

When death follows upon a period of illness of some duration, it is usually preceeded by a group of phenomena that is sometimes called the death agony. The physiognomy of a person in this condition has been well described as follows: "The eyes become fixed and insensible to the action of light; the nose grows pointed and cold; the mouth, wide open, seems to call for the air that fails it, the cavity within is parched; and the lips, as if withered, cling to the curves of the teeth. The last movements of the respiration are spasmodic, and a wheezing, and sometimes a marked gurgling sound may be heard at some distance, caused by the obstruction of the bronchial tubes with a quantity of mucus. The breath is cold, the temperature of the skin lowered. If the heart is examined, we note the weakness of its sounds and pulsations. The hand placed in its neighborhood feels no throb." Finally it ceases to pulsate, and death is accomplished. The death struggle is seldom painful, and almost always the patient feels nothing of it. He is plunged into a comatose stupor, is not conscious of his situation or suffering, and thus passes from life to death.

A striking fact in connection with the dying is that they are not afraid of death, even when the mind is conscious of its sure and immediate approach. We see this in executions; the majority of men who are hanged are reported to "die game." Death following disease or injury is seldom accompanied with fear. Nature, by a kindly provision, seems to prepare for the change when it becomes inevitable. In scarcely a single instance within my experience, or within that of my professional brethren with whom I have conversed upon this point, has the dying man relinquished life with seeming reluctance or fear. To many who are physically or mentally weak, and full of suffering, death is but a release from a life of pain and sorrow, and to die is gain. Pain sickens one of life, and makes him long for release in death.

The clammy skin, the cold extremities, the glazed eye, the relaxed jaw, the short breath, the failing pulse, and death-rattle,—these death-tokens, are appalling only to the living observers. And it may be asserted that death is usually painless, and that the

apparent agony or struggle, so often observed, is automatic. Last words are imagined by affection to mean more than intended, if there was any intention at all. "It grows dark," or "more light," are common sayings as the optic nerve fails to respond. Strange sights may be seen and sounds heard, but such hallucinations can generally be explained upon natural causes. What a blessing that Death, that "king of terrors," as mortals have crowned him, comes to us so often, like the goddess to Æneas, wrapped in a cloud, and that the light of hope so frequently lingers in the human heart through months of progressive decay until the eye is dim, yea, until in the very arms of death!

Death is absolute when the pulsations of the heart are stopped without renewal for the space of five minutes. This is the certain sign of death. Yet the uninformed philanthropist is zealously seeking a sign. A bill recently introduced into the legislature of one of the New England States providing for "Ascertaining when life is extinct in a deceased person," is as unnecessary in its provision as it is ungrammatical in its construction. In all cases of seeming death, this mark of vitality, the pulsation of the heart, persistently remains. Its throbs are less strong and frequent, but they usually continue perceptible on careful auscultation. They are discernible in the deepest fainting fits, in the various kinds of asphyxia, in poisoning by narcotics, in hysteria, in the torpor of epilepsy, and in other similar states. In delicate cases there might arise some embarrassment in relying upon this sign alone, all doubt being removed only on the supervention of the more tardy, yet certain, post-mortem phenomena of putrefaction. Passing over tests for respiration, and the excitation of muscular contraction by electricity, we notice that most valuable proof that the heart is still active which is obtained by cupping in the precordial region, when, if there remains a minimum degree of vitality, superficial capillary congestion will be induced.

The heat declines slowly, and the tissues soon lose their peculiar vitality. Rigor-mortis, or corpse-like rigidity, is one of the most characteristic phenomena, and begins some hours after death.

The muscles of the lower jaw are said to be the first to stiffen, then the abdominal muscles, those of the neck, and last the thoracic muscles. A few hours more and the coagulated fluids, which

cause the rigidity, soften again, the muscles relax, the blood-globules change, lose their shape, and the agents of putrefaction, vibrios and bacteria, enter upon their work. These living germs from the surface of the body and from the digestive canal develop and revel in the destruction of tissues and humors. Death from putrid maladies and a warm atmosphere furnish the most favorable condition for this work of decomposition, which becomes evident in a few hours. Thus we may say, without tracing the chemical transformations, the body returns to the earth whence it came, the necessary end of all organic existence.

We are told by writers on physiological subjects of the wonderful feats of imitation death which are practiced by the fakirs of Persia and Hindustan, and by oriental mystics in general. These have been witnessed by high officials, as well as by physicians with eyes trained to careful observation. Several sects in Persia regard the art of apparent death as a part of their religious ritual, and it is described as a stopping or retention of the breath. This art was the lion of festivals in the fifth century B. C. The subject seems to be on a kind of border-land between sleep and death. In its physiological relations it may bear upon the singular phenomena associated with modern mesmerism. The rationale of the process of preparation, it is said, rested on the view of the Hindoo physiologist, that heat constitutes the self-existent principle of life, and that if the functions even be so far interrupted as to leave this one in perfect purity, life can be maintained for long periods, say many weeks, without air, food, or other means of sustenance. The discipline essential to the practices of the fakir, and especially to proficiency in the art of imitating death, is not of a type that would be likely to fascinate those who like physical comfort. It is required that the disciple go long without eating,—*a la* our own Tanner,—as well as to abstain from much drinking, must live under ground in a perfectly even temperature. The essentials are absolute exclusion of fresh air and light, and perfect silence. In addition to these preliminaries, there are others, which are partly gymnastic and partly emotional, tending to bring the involuntary processes under control of volition. The extent to which this discipline may be carried is illustrated by the case of Col. Townshend, an Englishman, referred to by Carpenter, and otherwise

scientifically attested, who was examined by the physicians of his day, and who possessed the ability to arrest voluntarily the vital functions so completely as to present in his own person a perfect similitude of death, and to recall himself to life by a mere effort of his will.

Efforts have been made from time to time to ascertain the most common hour of death. It is frequently asserted that the greatest number of deaths occur in the early morning hours, when the powers of life are at their lowest ebb, and statistics confirm the opinion.

We cannot fathom all the mysteries of death. When the link between the material and immaterial is broken, we pronounce the organism dead. What this vital principle is which presides for a time over the organic structure we cannot comprehend. The guidance of the same principle is evident in the green leaf of the plant, and in all organic life. It is this power that resides in and retains organic molecules in their complex combinations till the materials revert to their original character, till the individual dies. Says a writer: "These organic molecules are in a condition of unstable equilibrium, the elements of which are ever ready, at the solicitation of a predisposing cause, to abandon their present constrained condition, and rush into simpler combinations and closer connections." All organizations have their limit of growth, then go to decay. The seed, when planted in soil, through the force derived from the sun and stored for awhile, develops into a more complex organization under the direction of this vital principle, affording striking evidence of a divine and spiritual essence operating with the ordinary forces of nature. As the seed has a limit to its growth and dies to give life to the tree, so the tree has its limit, and yields up its life, goes to decay, returning to the mineral elements from which it came. This may be done gradually or quickly. Rapid combustion effects in an hour what would require decay or slow combustion years to accomplish, though the same compounds and the same simple groups are obtained. Again, the seed may be seized by the animal, and under the guidance of another vital principle be converted into a higher organism. The animal, on dying. gives back to the atmosphere and to the earth elements obtained from them. Other

forms of animal life, beasts, birds, and insects, feast upon the remains, and appropriate the mass to take yet a part in the processes of life. These scavengers, indeed, are in turn repressed or swept away from existence by animals of a higher life, who do not wait for the death of their victims, and thus an equilibrium is maintained. Man, standing at the head of the animal creation, demands the benefit of the concentrated material garnered in the bodies of the lower animals, and, to the gratification and accomplishment of this end, they must bow to the stroke of death, that he may live.

Thus we see an economy in the institution of death which is perfect. In this work of elevation, from the simplest seed to the crowning work of creation, death keeps pace with life. Nothing is lost. Waste material is wrought over and over, taking always new forms.

The beneficence of death is equally evident. It gives fertility to the soil, rewards the husbandman, and carpets the earth with green. Could the vast number of seeds that come to maturity in one generation gain a foothold, there would be no place on the globe for the perfection of the next. So a great portion of them must perish, and furnish food for a higher form of life. Their death is a benign provision. The vast accumulation of our coal mines are masses of dead, but undecayed, vegetation, having stored in them forces from the sun, which are made so useful in these later times. The beneficence of death to the animal is also apparent. By death the different races of animals are made to conform to proper limits. Were they permitted to multiply, unchecked, the earth would not produce enough to support them many generations. A great part of them contribute, by violent and early death, to the support of superior races, and a balance in the animal, as well as in the vegetable world, is secured.

I have thus attempted to present some of the aspects of death, many of which we, as physicians, are constantly meeting in our daily walk and practice. I have spoken of the death of the body. In closing, I may say other thoughts press themselves upon us in connection with the physical disease and death of man. It may be asked, Is there beneficence in the plan that spares not the most sacred friendship, that crushes the most cherished hopes, that snaps

ties of the fondest affection? To this question, as well as to t other, "Is there life beyond the grave?" answers complete and sfactory may not be readily found, for science affords no posi- assurances upon these points. But it is within our province to , that in that benign wisdom which suffers not the sparrow to without its notice, and which tempers the wind to the shorn b, we may have that ready faith, that man, the noblest work of ation, does not suffer or perish without the highest consideration his best good.

Reports of District Societies.

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REPORT OF THE STRAFFORD DISTRICT MEDICAL SOCIETY.

BY C. A. FAIRBANKS, M. D., SECRETARY.

To the Officers and Members of the New Hampshire Medical Society :—

The seventy-third annual meeting of this Society was held at the American House, Dover, December 15, 1880. There were twenty-five members present. After appointment of Committees on Nominations, Selection and Assignment of Topics for next Annual Meeting, and Necrology, the President, Dr. John S. Parker of Lebanon, Maine, delivered an address on "The Expectant Mode of Treatment." He said : "In alleviating the sufferings of the sick, the physician should act or forbear acting as the exigencies of the case may require. He will find many cases in which, for a time, he will not know what to do, and in which it will be safest to do nothing. That there could be no doubt that the expectant mode of treatment was the true mode for a large majority of the cases to which we are called, and should be adopted in all cases, when, in our judgment, the patient only requires a strict regulation of his diet for the vital powers of the constitution to resume their normal condition. That the less medicine we prescribe for our patients the better, provided the quantity be sufficient to render the proper assistance to nature. That in most cases we are called to treat, rest, abstinence, and a careful attention to the

secretory functions are all that is needed to restore the sick to health. That in most cases we owe more to the recuperative powers, than to drugs, and that the true practice is to aid these powers rather than attempt to cure by drugs alone. In that class of acute cases where the disease is rapid in its progress and stealthy in its approach, the expectant plan of treatment is not admissible, for its use might result in the loss of our patient. To dose with active drugs when unnecessary, or to neglect to use them when required, is equally wrong."

Dr. John W. Parsons, for the Committee on Nominations, reported the following as officers for the ensuing year :—

President—Dr. John R. Ham, of Dover.
Secretary—Dr. Charles A. Fairbanks, of Dover.
Auditor—Dr. Paul A. Stackpole, of Dover.
Treasurer—Dr. Charles A. Tufts, of Dover.
Orators—Dr. Thomas A. Rogers, of Kennebunkport, Maine; Dr. Edward S. Berry, of Dover.

Dr. E. Q. Adams, of Kittery Point, Maine, delivered an oration on "The Principles of Medicine." He said: "New discoveries in etiology, pathology, diagnosis, and therapeutics, have changed the application of principles in practice, and, to a certain extent, the principles themselves. The age in which we live may be truthfully denominated the age of reason in the study and treatment of disease. The years which are past, reaching far away into the obscure mists of fabulous times, constitute the age of empiricism. The theory of witchcraft at one time held able men chained in their belief and restricted in their actions, so far as scientific investigation was concerned. Force was at one time the grand lever with which disease was to be removed. The powerful emetic, the stirring cathartic, the drenching sudorific, and the lancet lent their quotas to drive out the demon.

The principle of *contraria* was formerly more prominent than now. The principle of derivation was resorted to. Now physiological compression has supplanted this, and the vessels of the brain are relieved of their abnormal fulness by ergot, belladonna, bromide of potash, etc. In the treatment of essential fever, the days of blood-letting, heroic doses of antimonials and salines have

gone. We know that fever is caused by a poison which must be carried off by the great emunctories, which cannot act healthfully with the pulse at one hundred beats per minute and the temperature at one hundred degrees, so we use means to act in accordance with nature's laws; the small dose of aconite, the cold bath, etc. In diseases of women too much instrumental interference has been the rule. Pessaries of various kinds, leeches and scarifications have been too freely used. In the diseases of children the principle of force is still too strongly applied." The writer believed that disorders can be reached and controlled by doses which are commonly regarded as small.

Dr. Conn, President of N. H. Medical Society, addressed the Society, and suggested that the papers be placed in the hands of the Executive Committee of the State Society. The council recommended Drs. Willis of Elliot, and Quimby of Great Falls, for membership, and they were elected.

Dr. John W. Parsons, of Portsmouth, read a paper on "Puerperal Convulsions." He devoted the greater part of his paper to a consideration of the etiology and treatment of this disease. He included under the title of his paper, all cases of tonic or clonic spasms which occur during and are in some way dependent upon the puerperal condition; and he excluded all cases of pure apoplexy, epilepsy, and hysteria. He believed that the causes of eclampsia were multiple, and that albuminuria was not so frequently the cause as has been contended by some writers. His own ideas were, that primarily we have in the puerperal state a peculiarly susceptible condition of the nervous system, one in which impressions are received and disturbances created more easily than in the non-puerperal state. Starting with an exalted condition of the nervous system, as one of nature's provisions for carrying on the process of creating being, as a prime cause, we have, for secondary causes, innumerable sources to which we can attribute the attacks. These secondary causes may be of external or internal origin. Internal, we may have indigestion, constipation, retention of urine, disturbances of the circulation, anaemia, plethora, the pains of labor, or anything which induces an irritating influence upon the nervous system; external, we have moral shocks, or emotional disturbances, such as arise from grief, joy, surprise, disgust,

or disappointment. The prognosis, so far as it relates to the mother, should be regarded as of the gravest character, although much depends upon the severity of the attacks; and to the child the result is even more grave than to the mother. In his own practice he delivered but one living child, and had known of but one other similar result in his intercourse with other physicians. He had never as yet had a fatal result to the mother among his own cases, and had known of only one fatal case in his connection with other physicians. In considering the premonitory symptoms, he regarded severe head symptoms of serious import and demanding prompt treatment, such as each case indicated; and for severe pain in the head, the grand remedy should be a full venesection. Blood-letting, judiciously used, stood at the head of the list of remedies for this disorder, and he believed that there is no treatment so prompt, so decisive, so satisfactory, and so generally applicable, when followed by appropriate remedies, although by no means always successful. Chloroform, ether, or some other anæsthetic was regarded as the next most valuable treatment, and generally its administration is necessary or advisable after blood-letting. For reducing congestion, as well as purging the system of irritating alimentary matters, a prompt cathartic was recommended, and the writer preferred Croton oil.

Morphine was also lauded as a most excellent adjuvant to other treatment, but caution was advised in selecting the dose, as he believed the same dose would act more powerfully after bleeding than before. Hydrate of chloral was alluded to as a most excellent remedy in controlling the spasms, but the writer did not believe it could be relied upon except as an assistant to other means. Veratrum viride, he thought, could be given in doses of fifteen to thirty drops of the fluid extract to strong patients with good effect, when the pulse was very rapid after venesection.

On the question of the obstetric management of the case, Dr. Parsons thought there could be no definite rule to follow, but in a general way he advised non-interference, especially if the os is undilated. If the head is well advanced, and labor is not likely to terminate soon, and delivery can be effected without much disturbance to the mother, it is better to deliver at once.

Dr. Gage reported resolutions on the death of Dr. B. W. Sargent, of Rochester.

At 2 o'clock the Society adjourned to the dining-room of the hotel for dinner, and at its close the thanks of members were extended to the proprietors for its excellence.

At 3 o'clock the Society was again called to order, Dr. J. R. Ham, President-elect, in the chair. Dr. Wheeler made remarks on diphtheria, referring particularly to subject matter in a recent work written by Dr. A. Jacobi, of New York.

Dr. E. S. Berry reported a case of strangulated omental hernia, in which a loop of intestine was strangulated by passing through an opening in the omentum. The specimen was exhibited to the members of the Society.

Dr. P. A. Stackpole made remarks upon the treatment of *placenta praevia*, and the position of the patient during child-birth. The latter question was discussed by Drs. Pike, Rogers, D. T. Parker, Lathrop, Hill, and Wheeler. They believed that this matter should be left largely to the inclination of the patient, and if she desired to assume the "squatting" position during delivery, no obstacle should be thrown in her way. Dr. Wheeler believed that in every case of child-birth we should examine at once to see if there is a rupture of the perineum, or a fissure of the cervix; if there is the former, it should be closed up; if a fissured cervix, then injections of warm water and weak solutions of carbolic acid should be used.

Dr. Hill, for the Committee on Assignment of Topics for 1881, reported as follows:—

New Remedies—Dr. C. A. Tufts.
Shock—Dr. C. E. Quimby.
Dyspepsia—Dr. J. L. M. Willis.
Post Partum Hemorrhage—Dr. L. G. Hill.
Surgery—Dr. C. A. Fairbanks.

Dr. S. C. Whittier spoke of the use of chian turpentine, and stated that results were entirely negative in a case that he had known in Lynn. Dr. M. C. Lathrop stated, that in a visit to the Middlesex Hospital, London, they stated to him that results had been

negative. Dr. E. S. Berry said, that he had used it in two cases; in one with apparent benefit, and in the other with none.

On motion of Dr. Hill, Granville P. Conn, M. D., President of the N. H. Medical Society, was unanimously elected an honorary member of the Society.

Adjourned.

REPORT OF THE CENTRE DISTRICT MEDICAL SOCIETY.

BY DR. GEORGE C. BLAISDELL, SECRETARY.

CONTOOCOOK, N. H., JUNE 21, 1881.

To the Officers and Members of the New Hampshire Medical Society:—

I have the honor to submit the following as the annual report of the Centre District Medical Society:—

The past year has been one of continued prosperity and interest. Physicians are becoming more and more aware of the value of these meetings. The discussions are social in character, and tend to draw from memory many features of interest that otherwise might be forgotten. The following has been the programme of the respective meetings during the year:—

JULY 12, 1880.

Dr. G. P. Conn, of Concord, reported an interesting case of "Extra Uterine Fætation."

Discussion and report of "Abnormal Cases of Pregnancy."

The discusssion, in the regular order, was on the "Use of New Remedies."

OCTOBER 12, 1880.

Discussion on "Typhoid Fever."

JANUARY 11, 1881.

President J. R. Kimball, of Suncook, delivered the annual address. Topic: "Conservatism in the Practice of Medicine."

Dr. C. H. Harriman, of Hopkinton, read a paper upon "Chronic Cystitis in the Female."

Discussion upon "Hemorrhage in Typhoid Fever."

APRIL 12, 1881.

Dr. H. A. Weymouth, of Andover, read a paper upon "Lumbar Abscess."

Dr. J. H. Adams, of Hooksett, read a paper upon "Diphtheria."

Essay and report of interesting cases, by Dr. Julia E. Wallace, of Concord.

The officers for the ensuing year were elected as follows:—

President—Dr. H. A. Weymouth, Andover.
Vice-President—Dr. George Cook, Concord.
Secretary—Dr. George C. Blaisdell, Contoocook.
Treasurer—Dr. Moses W. Russell, Concord.

REPORT OF MEETING OF AMERICAN MEDICAL ASSOCIATION FOR 1881.

As one of the delegates of this honorable Society, I had the pleasure to attend the thirty-second annual meeting of the American Medical Association, held in Richmond, Virginia, the third, fourth, fifth, and sixth of May, 1881, and, having been requested by your other delegates present at the meeting, make the following report:—

The Association having been called to order by Dr. Cunningham, chairman of the committee of arrangements, prayer was offered by the Right Reverend Bishop Kean. Virginia's governor, F. W. M. Holliday, was then introduced, who delivered the address of welcome in a manner worthy of the occasion and the Old Dominion,

which gave birth to, and in whose bosom rests so many distinguished and illustrious patriots of America.

I quote his words :—

"In the name of your brothers in Virginia, I bid you welcome to their capital city, and to its many historic associations; to the beauties which nature and art have combined to bestow upon its site and surroundings; to the fellowship of a common pursuit and common aims; and, above all, welcome to the cordial hospitality of their homes and hearts.

"You cannot walk these streets, nor stand upon any of the surrounding heights, that you are not in the midst of the dust o the memories of those whose lives are interwoven with the war and woof of a people's history.

"But, of all the conventions that ever met here, none, in the height and nobility of their aims, surpass that into the faces of whose members I am now looking."

Closing, he said :—

"Great as are your duties and responsibilities, equally great are your advantages and opportunities. In one hand you carry the torch of science, throwing its light along the onward, upward way where on every hand "Excelsior" is written, and where, alas! li the wrecks of many fortunes; in the other, you carry the lamp o charity; behind you follow the virgins to keep it supplied and trimmed, and to strew the path with sweetest flowers.

"I bid you cordial welcome, gentlemen, to our city, and wish you God-speed in your noble work."

Letters of regret were read, for non-attendance, from Simms Baldwin, Anderson, Carpenter, and Pratt.

Invitations from the Richmond, Westmoreland, and Commercial Clubs were read, tendering their hospitalities to the members of the Association. These invitations were accepted with thanks.

At 12 M., Vice-President Holton introduced Dr. John T. Hodgen, of St. Louis, the President, who delivered the annual address. Neither time or space will allow more than a brief mention of certain portions of his interesting paper.

He remarked that "Surgeons were divided into two classes: one, ambitious and reckless, performing every practicable operation; the other, cautious and conservative, avoiding operations

whenever possible. The former is made up of enthusiastic young men, inspired by their professors and wonderful cases in medical literature. They read of a Simon, who excises a kidney, turns an aberent ureter into the rectum; of a Battey, who removes an ovary for an obscure nervous disorder; of a Billroth, who cuts out a cancerous larynx or diseased pylorus; and these operations are repeated in the four quarters of the globe."

He illustrated this practice of seeking cases for operations, and of operating by following the *dicta* of authority without a full understanding of the condition to be relieved by two surgical procedures, which he believed were resorted to with far too great frequentcy by gynecologists; one, the division of the cervix uteri for flexurs, first introduced by Simpson; the other, Emmet's operation for the cure of lacerations of the cervix uteri.

"Herein," says he, "lies a danger which threatens the profession through the adoption of exclusive specialties by those not well trained in general medicine. The early and exclusive study of the affections of a part tends to narrow the intellectual grasp, and cramps the powers of the man yielding to such partial training. In the best sense, a specialist is a physician and something more; in the worst, he is something else and something less than a physician.

"Surgeons were in danger of overlooking the general influences, which are ever present to modify and control the results of local injuries. To learn what to do and how to do it was always more attractive to the student than to be told what not to do. On the other hand, in certain diseases, early operations were indicated as they offer the best chance of saving life." In this class he included sarcoma of the choroid, which can be early diagnosed, rodent cancer, epithelioma, and mammary scirrhous. Their removal at an early date often effects a permanent cure."

He instanced also easy promptness in dealing with symptomatic opthalmia. The remaining portion of his address was general, and I quote.

He said: "High conditions of health was not the best condition for a patient to endure a surgical operation, and the accompanying confinement."

He alluded to the surgeon being compelled to operate under morbid conditions, the most complex, as in chronic suppurative diseases of joints and bones. He referred to shock and anemia as particularly unfavorable to surgical operations.

Concluding, he said of diathases: "He recognized in them the existence of wide, uncultivated fields, rich in promise to future investigators, who would, no doubt, throw light into regions now too dark for vision to penetrate."

All the address should be read, in order to fully appreciate its worth.

Members of the Association met in sections, where interesting and valuable papers were read, and discussed freely. Among which was a paper by Dr. Wile on "Blood-letting in the Treatment of Pneumonia," advocating its use. Dr. Lynch did not bleed. Dr. Whittekar also objected. Dr. Davis as strongly advocated bleeding. Dr. Octerlony sharply criticised the theory set forth, and disapproved the use of the lancet. Dr. Clairbone said we should go astray to follow either extreme. He took the middle course. Dr. Coleman did not bleed. Dr. Quinby sometimes bled. Dr. Whitney thought we did not bleed half enough. Dr. Ballou regretted that he had not bled more. Dr. North always carried a lancet, never bled, and never lost a patient in pneumonia. Dr. Jackson did not want the Association to advocate or reject the use of the lancet. Dr. Gross said blood-letting, performed in time, on proper subjects, was the great remedy in this disease. Dr. Lester liked the theory better than the practice, and would like to see it dispensed with. Dr. Martin trusted it might go out to the world that the American Medical Association sanctions the occasional use of the lancet, at least.

Dr. Mundé gave twenty brief rules for the introduction and supervision of pesseries. Dr. Maughs thought stem pesseries had killed catacombs of women.

Drs. Post, McGuire, Goodwillie, and Watson read papers on Surgery.

In section of diseases of children, Drs. Bowditch, White, and Busy presented valuable papers which were ably discussed.

Dr. McGuire's paper on "Operative Interference in Gun-shot Wounds of Peritoneum," was well received.

A paper on "Treatment of Diphtheria," by Dr. Nurnn, was discussed, and many remedies advocated and among the important, chloroform, by Dr. Lathrop, of Dover.

Dr. Leals, on "Labial Carbuncle" or malignant pustule, excited much interest, especially the remarks of Dr. Post on it.

Dr. White's paper, entitled, "Some of the Causes of Infantile Eczema," in which he said, "The prime factor of the treatment was the prevention of scratching; next, that, if a grandmother is present, it is the first evil to be eliminated. Dr. Bulkly claimed that general treatment was necessary. Dr. Ulrich would prefer to knock the little patient on the head at once, rather than subject it to the tortures of Dr. White's straight-jacket.

Dr. Post's illustrations of his plastic operations elicited much interest.

Dr. Sayre, as usual, exhibited the application of his famous plaster Paris jacket.

The above are a few items selected from the many papers of great interest which were read and discussed, all of which, in due time, will appear in full in the Transactions of the Association.

It was voted to establish a weekly journal as the organ of the Association.

By vote of the Association, a section on dentistry is to be a new feature next year.

After Dr. Davis read his report upon "Clinical Observations and Records," it was voted to appropriate five hundred dollars for the purpose set forth in several resolutions, to establish six or more places for continuous observations and records of appreciable conditions of atmosphere, and their relations to the prevalence of disease.

The Association considered the "Amendment to Code of Ethics, Article 1st, paragraph 1st, add: 'And hence it is derogatory to the interests of the public and honor of the profession for any physician or teacher to aid in any way the medical teaching or graduation of persons, knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine.'" Dr. Dunster opposed it in an able speech; and was followed by Dr. Davis, who advocated its adoption in a masterly manner. After

voting upon its passage several times without any certain result, on motion of Dr. Billings the following substitute was adopted :—

"It is not in accord with the interests of the public, or the honor of the profession, that any physician or medical teacher should examine or sign diplomas or certificates of proficiency for, or otherwise be especially concerned with, the graduation of persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine."

The elegant reception given by Richmond's well-known physicians, Drs. McGuire and McCaw; the grand and complimentary entertainment given by the physicians and citizens at the theatre, including the sumptuous banquet, the interesting and well-rendered opera, "Dr. Alcantara," so appropriate for the occasion; the highly enjoyed excursion, so generously tendered by the Richmond and Alleghany Railroad, and the sumptuous banquet enjoyed while in transit;—all these were largely attended by Richmond's most distinguished representatives of its intelligence and wealth. The entertainments, receptions, and many courtesies of the citizens and resident physicians, the historic interests, the intellectual feasts served by distinguished members of the Association, made the occasion profitable, our stay pleasant and long to be remembered.

The next meeting will be held in St. Paul, Minnesota.

Dr. T. J. Woodward, U. S. A., was elected President.

All is respectfully submitted,

H. A. WEYMOUTH.

NECROLOGY.

REPORT ON NECROLOGY.

BY L. G. HILL, M. D., OF DOVER.

Mr. President and Gentlemen:—

"One by one" our brethren are departing, and each passing year furnishes its quota of loss to this Society, and subjects for a report of the Committee on Necrology.

During the last year, we have lost by death, so far as I am aware, but three members, and neither of these were residents of New Hampshire at the time of their decease. Dr. G. C. Terhune resided in Hackensack, New Jersey; Professor Edward E. Phelps, at Windsor, Vermont; and Dr. George W. Garland, at Lawrence, Massachusetts.

G. C. Terhune, M. D., was born at Spring Valley, New Jersey, January 19, 1827. His father, a farmer, was Martin, and his mother, Christina Terhune. Of his earlier years, or preparatory education, I have no knowledge. He studied medicine with Dr. Whittaker, of New York City; attended lectures, and graduated in that city; practiced two years with Dr. Whittaker; eight years in Hackensack, New Jersey; and then went into the army as assistant-surgeon, and was with the forces in Virginia nearly all the time for three years.

After leaving the army he located in New Boston, in this State, and practiced there about ten years, when, on account of failing health and solicitations of friends, he returned to Hackensack, where he continued to practice until his last illness.

Dr. Terhune became a Fellow of this Society in 1867; was much interested in its members and meetings; and, notwithstanding

his removal from this State, he kept his membership good by his occasional presence and payment of dues. He received our publications, and, by correspondence—when he could not be present—with our then secretary, now president, showed a lively interest in our affairs and published papers.

Dr. Terhune was married October 19, 1853, to Mary F., daughter of Thomas and Sophia Adams, of Gilmanton, New Hampshire, who is still living. They had no children.

Dr. W. B. Cogswell, of Hackensack, who, in behalf of Mrs. Terhune, kindly furnished much of the foregoing, further adds: "Dr. Terhune's general health was good until about five years before his death, during which he suffered from kidney trouble. His death resulted from an aneurism, situated at the arch of the aorta, November 27, 1880.

Dr. George W. Garland, whose name is familiar to the members of this Society, died in Lawrence, Massachusetts, May 5, 1881. He was born in Barnstead, New Hampshire, January 3, 1813, his parents being Isaac and Lydia Babb Garland.

Dr. Garland's earlier years were spent upon his father's farm, and in attendance at the common schools of his native town, and later at the academies of Gilmanton and Hopkinton, New Hampshire. During the years of 1832, '33, '34, he engaged in teaching, in order to increase the means necessary to complete his education. A biographer writes of him: "The persistence and economy developed in this, the formative period of his career, gave promise of success and ultimate distinction. The courage which wrestles with difficulty, the carefulness that hoards every element of triumph, the patience that eagerly watches for the consummation of deferred hope, were all nurtured in the weary, waiting years spent in duties which were regarded only as secondary means to an ulterior end. Many an eminent clergyman, lawyer, and scientist has passed through similar experiences, but never without a toughening of moral fibre, an increased tenacity of will power, and clearer mental vision of the instrumentalities needful to compass legitimate ends."

Self-reliant and thoroughly disciplined by his years of sacrifices and self-dependence, he commenced his medical studies, in 1834, under the direction of our late Professor Dixi Crosby, then a resi-

dent and practitioner at Gilmanton Corner. When Dr. Crosby removed from Gilmanton to "Meredith Bridge," now Laconia, his pupils—Dr. Garland being one of them—accompanied their preceptor to his new home and larger field of labor.

He attended lectures at Dartmouth and Boston, and during the six months he spent in the last named place he acted as assistant in dressing surgical cases at the Massachusetts General Hospital. Thence he repaired to Bowdoin College, Maine, from which he took his diploma of Doctor of Medicine, in the year 1837.

Having early shown a preference for the medical profession, and having pursued his preparatory and professional studies with great assiduity, and now being fully equipped and authorized to practice, he located, in 1838, in his native town, and soon acquired the confidence of the community, and commanded a good business. He resided in Barnstead eight years, when his former preceptor, Dr. Crosby, who was about to leave Laconia and take up his residence and a professorship at Hanover, requested Dr. Garland to occupy his place at Laconia, which he did in 1846. Here he remained in active practice until 1854, when he removed to the larger place and broader field, Lawrence, Massachusetts, where he continued to prosecute, successfully, the duties of our beneficent profession until seized by the late short illness which proved fatal.

In 1865, Dr. Garland received C. N. Chamberlain, M. D., his son-in-law, and now a prominent physician of Lawrence, into business associations with himself, and the connection has since continued.

Dr. Garland was a member of the Massachusetts Medical Society, and had served as Counsellor of that body. A few years since he read a paper before that Society, relative to obstetrics, offering new and useful suggestions as to practice in that important department. Two years ago he received the distinguished honor of being selected as orator of the Massachusetts Medical Society. Dr. Garland was also a member and ex-President of the Essex North District Medical Society; member of the Strafford District, and New Hampshire Medical Societies; and has contributed several valuable papers to the Transactions of each.

As a writer on matters pertaining to his profession, he held a high rank, and the columns of various medical journals have been enriched by contributions from his pen. In one of them, the

article is illustrated by wood-cuts of seven different instruments of his own invention. This paper has been much read and commented upon, as it describes an original method of operation for recto-vaginal laceration. This method he successfully practiced in six cases, using instruments of his invention.

Dr. Garland possessed the very important trait of being able to *think*, to think for himself. He was a good physician and a good surgeon, and had such a love for, and devotion to, his chosen profession as must of necessity result in much pleasure to himself and great good to the community in which he moved.

He was a genial, pleasant gentleman, a warm friend, and will be long remembered by those who had the pleasure of his acquaintance.

There was a time when Dr. Garland was quite an ardent politician; but more recently, while not losing his interest in local or general government, he has avoided active participation in political contests.

His three years' teaching in early life gave him a lasting interest in all that pertains to the instruction of youth, and during the eight years when he was a member of the Board of Education in Lawrence, he contributed largely to the growth and efficiency of educational interests in that city.

As a physician and surgeon, Dr. Garland was highly esteemed both by the people and physicians of his neighborhood. He had a large general practice, and was often called in consultation in rare or difficult cases, medical and surgical.

A neighbor of his in Lawrence says: "He was always ready to extend a helping hand to struggling members of the profession, and no young disciple of Esculapius ever applied to him for aid or advice without receiving that for which he asked, kindly and generously. In his death Lawrence loses an upright, honest citizen, who was ever solicitous for the welfare of the city, with whose growth and prosperity he was closely identified. He will be missed by many families in this vicinity, to whom in times of affliction he kindly ministered, and by whom he was regarded as a safe adviser, a generous-hearted and true friend."

In 1840, Dr. Garland married Elizabeth, daughter of Mr. Washington Bowker, of Brunswick, Maine. They had two children:

one daughter, Anna, who married Dr. Chamberlain, already mentioned; and one son, Dr. George M., who has been highly educated at home and abroad, who now resides in Boston, and is an assistant in Physiology in Harvard Medical School, and professor of Thoracic Diseases in the University of Vermont.

The members of this Society will remember with pleasure the countenance and words of our highly esteemed brother, who, while residing in an adjoining State, kept his relations good with us, and showed the same interest in our affairs, by correspondence, by annual attendance upon our meetings, and contributions to our Transactions, that he had done when a citizen of New Hampshire.

The death of Dr. Garland occasions an irreparable loss to his family, and a great deprivation to the community where he lived, and we who valued his fellowship so highly, and who have so often been cheered and profited by his presence and practical suggestions, are left to deeply lament his decease, to sympathize with his bereaved family, to emulate his many virtues, and to sorrow that we shall "see his face no more."

OBITUARY NOTICE

OF

PROF. EDWARD ELISHA PHELPS, M. D., LL. D.

BY PROF. C. P. FROST, OF HANOVER.

At the request of your Committee on Necrology, I present to this Society a brief sketch of the life and character of Dr. Phelps. Although not a resident of this State, he was, I think, an honorary member of this Society, and for many years he held a chair in our Medical School, where he did much for the instruction of many of the members of this Society. To many he was also well known in the capacity of counsellor in cases of difficulty and doubt.

His birthplace was Peacham, Vermont, and the date of his birth was April 24, 1803. His youth, and nearly all his professional life, was passed in Windsor, Vermont, where he died on the 26th of November, 1880. When seventeen years of age he entered the freshman class in Yale College. He remained in that institution but little more than a year, when he entered the military academy just started at Norwich, Vermont, by Captain Alden Partridge. From this school he graduated with honor in its first class, in 1822. A few weeks later he was attending medical lectures at Dartmouth. After a course of lectures there, he soon went to New Haven, Connecticut, pursued the study of medicine with Prof. Nathan Smith, attended lectures at Yale, and took the degree of M. D. there, in 1824. Shortly after he went South for a year or two, and

put to practical use his knowledge of engineering, surveying the Dismal Swamp Canal, etc., and also keeping up a diligent study of natural history, particularly in the direction of botany. With recuperated health he returned North, and soon began the practice of medicine in Windsor; and, in 1830, he married Phœbe Lyon, of Boston, who, with a daughter, survives him.

In 1835, he was called to the chair of Anatomy and Surgery in the Medical School then established at Burlington, Vermont, which chair he held for two years. The Vermont University conferred upon him, in 1835, the honorary degree of A. M., and, in 1857, that of LL. D.

In 1840, he was called to Dartmouth as Lecturer on Materia Medica, Medical Botany, and Medical Jurisprudence. In 1842, he was chosen Professor of Materia Medica and Therapeutics, and Lecturer on Medical Botany. This position he held till 1849. During these years he collected and arranged the contents of the very complete and very beautiful Museum of Medical Botany now belonging to the New Hampshire Medical Institution. In 1849, he was transferred to the chair of Theory and Practice of Medicine and Pathological Anatomy, then vacated by Dr. Joseph Roby. This chair he occupied till 1871, when he retired from the work of teaching in the College, and became Prof. Emeritus of Theory and Practice of Medicine. After 1871, his work for the College was done in the way of attention to the construction and fitting the Museum of Pathological Anatomy, the funds for which purpose were furnished by the liberal gift of his very warm personal friend, Hon. E. W. Stoughton, as a token of his appreciation of Dr. Phelps's professional services to himself, as well as of his appreciation of his skill and eminence in his chosen calling, and also that he might to some extent aid others to reach a like eminence. Thus, while he rears a monument to his friend, he shows his high estimate of the work of the medical profession, and makes his gift an enduring boon to that profession.

On the breaking out of the War of the Rebellion, his services were very early sought by the government of his native State to aid in securing proper persons to act as medical officers for the volunteer regiments sent out by the State. He was a member of the State Board of Examiners of Surgeons of Volunteers, during the

war. His high estimate of scientific attainment, as above social position or political influence, resulted in his keeping the medical appointments from the State of Vermont of exceptionally high order. The promptings of his patriotism and his love for military life and methods, fostered no doubt by his training at the Norwich Military School, would not allow him to rest content with such service as he could render within the limits of his own State. In the autumn of 1861 he went to Washington, and passed the ordeal of an examination for appointment as surgeon in the United States army. He became chief medical officer of the 1st Vermont Brigade, and remained in the field through (or nearly through) the campaign on the peninsula, when impaired health drove him home. As soon as his strength permitted, he was put in medical charge of the camp at Brattleboro', and inspected the troops furnished by the State for the service. He was also commissioned to construct and direct the military hospital at that place. The hospital was built up under his own most careful and persistent attention, and was one of the best arranged and economically, and at the same time skilfully, conducted hospitals in the country. The large per cent. of recoveries in it, due to good professional work as well as to the healthful location, gave it and him great and well-deserved credit. Near the close of the war he was transferred to a hospital in Kentucky, from which he returned to his home and his practice, in Windsor, when his services were no longer required by his country.

Dr. Phelps was endowed by nature with great physical as well as mental vigor. His work demanded long and tiresome journeys. During the lecture term at Hanover he would often drive over the road both ways in a day, and beside giving his lecture would make a circuit for consultation, beside attending patients at home. His habits of close observation had been acquired early in life, and in more advanced life they were still retained in great keenness. He was a good reasoner, and his conclusions were generally regarded as very sound. His will was strong, often even to a considerable degree of obstinacy, and whatever he undertook he followed out with the utmost perseverance, without regard to his personal convenience or comfort, sparing no means to accomplish what he esteemed desirable ends. In his professional work he was esteemed

by his patrons on account of his skill and scientific attainment rather than for the use of those manners and arts which are calculated to please the fancy and prejudice. For these things he cared less than nothing. His professional and scientific study was most untiring and long continued, ending only with his life. His lamp was the last one in the village to be extinguished at night, and the first to be lighted in the morning. It was a rule of his life to rise in the morning at whatever hour he awaked, believing that his waking was to be taken as an indication that he had obtained all needful rest in sleep. He would then take up some study or microscopical work and pursue it at a time when he would be free from danger of outside interruption. In this way, and by his habits of increasing diligence, he accomplished a great deal of work that many men much less occupied by professional duty have found themselves unable to do. With an imperfect knowledge of German and French, he still was able to get a good understanding of many works that were only published in those languages, before the demand for them had secured their translation into English. Rokitanski was so often quoted by him in his lectures that many of the students were accustomed to speak of him as "Old Rokitanski." I think he was believed by the members of the profession, and others who knew him, to be the most learned man in medical literature that was to be found in his own State, if not in New England.

As a teacher, he sought to acquaint his pupils with a knowledge of fundamental principles, rather than to dwell too much on the practical application of those principles. To many, therefore, his lectures seemed too abstruse and dry. They were always full of valuable information, and he was always listened to with the greatest respect, even when his words were not fully comprehended. His papers and remarks in the medical societies to which he belonged were sure to engage the most earnest attention of his hearers. His brethren in the profession, for long distances about him, often sought his advice and counsel in their cases of unusual difficulty. Many and long have been his excursions in the valley of the Connecticut, from Massachusetts to Canada. He had a most intense hatred of pretense and sham, which he took not the slightest pains to conceal. With all his love for learning, and with his

store of learning acquired in so many years of diligent study, he left nothing in writing, either in book or in articles for periodicals, if we except a few papers prepared for the local paper of his village on the subject of temperance in its scientific aspect. He was distrustful of himself as a writer, and was never satisfied with the measure of his attainments, but was always striving for fuller knowledge for himself before he would communicate to the public by the pen.

During his last months of sickness and weakness his time was occupied with his microscopical preparations. He thought much of the future life and of his preparation for it, and died with a full belief in, and acceptance of, the truths of the Christian religion.

REVISED BY-LAWS.

BY-LAWS.

ARTICLE I.

ANNUAL MEETING.

SECTION 1. The annual meeting of the Society shall be on the Tuesday preceding the third Wednesday in June, at 10 o'clock A. M., in the city of Concord, unless otherwise directed by the Society, notice being previously given by the Secretary.

SEC. 2. Nine members shall be necessary to constitute a quorum for business.

SEC. 3. At nine o'clock in the morning of the second day of each annual meeting, there shall be elected, by ballot, a President, Vice-President, twenty Councillors and ten Censors; a Secretary, Treasurer, Librarian, and an Executive Committee of three.

ARTICLE II.

ORDER OF BUSINESS.

SECTION 1. The President having declared the meeting open, the following matters of business shall be transacted in the order that they shall have been previously arranged by the Secretary and Executive Committee :—

1. The record of the preceding meeting shall be read by the Secretary, and of communications from the Council received.

2. The following committees shall be appointed, viz.: a committee to examine and prescribe for such patients as present themselves to the Society for advice; a committee to receive delegates; a committee to audit the Treasurer's account.

3. Reports from committees, and other communications received.

4. Election of officers.

5. Annual address of the President.

6. Miscellaneous business.

ARTICLE III.

DUTIES OF OFFICERS.—PRESIDENT.

SECTION 1. The President shall be, *ex officio*, member of the Council; shall preside at all meetings of the Society and Council, but is expected to take no part in debate, nor discuss any question, unless previously leaving the chair and requesting the Vice-President, or, in his absence, some other member to preside. He shall vote only in case of division, and at each annual meeting shall extemporaneously, or by a written dissertation or essay, address the Society on some subject connected with the duties of the profession.

VICE-PRESIDENT.

SEC. 2. The Vice-President shall perform all the duties incumbent on the President, in case of his absence.

COUNCIL.

SEC. 3. The Council shall meet the day preceding the annual meeting of the Society, shall propose all candidates for membership, shall call special meetings of the Society at the request of any five members, or whenever, in their own opinion, such meetings may be necessary. They shall take cognizance of any breach of the By-Laws, Regulations, or Police of the Society, or of any immoralities or differences between individual members, whether made known to them by the complaints of others, or occurring within their own observation; and if they cannot be satisfactorily adjusted, shall report the same for the adjudication of the Society. They shall prepare all business concerning individual interests alone, to be brought before the Society, and shall have the general supervision of the Society's interests during the interval of its meetings. Seven shall constitute a quorum for business.

SECRETARY.

SEC. 4. The Secretary shall be, *ex officio*, member of the Council, and of the Executive Committee; shall notify and attend all meetings of the Society and Council, and shall record their transactions, which record shall be subject at all times to the inspection of the members. He shall be the medium of communication between the Society and others; shall notify new members of their election, committees of their appointment, and shall have the charge of the Society's Seal; shall affix the same to Licentiates' Certificates and Certificates of Membership, and such other papers as require its sanction. He shall, with the advice and consent of the Executive Committee, arrange at least twelve days prior to the annual meeting, a programme of the exercises and order of business for said meeting, and forward a copy to each member of the Society, and to all others of the profession who reside in the State.

TREASURER.

SEC. 5. The Treasurer shall have the custody of all moneys belonging to the Society, and shall pay out the same only on the order of the Council. He shall collect all dues from members and others, and his account of receipts and disbursements shall be annually examined by a committee appointed for the purpose, and their report shall be entered on the records.

LIBRARIAN.

SEC. 6. The Librarian shall have in his custody and charge, the books, instruments, or any surgical apparatus that may belong to the Society.

EXECUTIVE COMMITTEE.

SEC. 7. It shall be the duty of the Executive Committee to nominate and submit to the Society for its approval at the morning session of the second day of each annual meeting, an Anniversary Chairman; the Orators and Committees to prepare papers for the Annual Meeting; the Delegates to represent the Society at Dartmouth Medical College, and at the meetings of the American Medical Association and the State Societies; a Committee of Arrangements for the Annual Meetings, and a Committee for the Semi-Annual Meetings. All volunteer papers shall be referred to

this committee. They shall also nominate the Council and Board of Censors.

CENSORS.

SEC. 8. The Board of Censors shall meet and organize immediately after each annual meeting, and provide for the examination and licensing of such persons as may be entitled to practice under the general law regulating the Practice of Medicine and Surgery in New Hampshire. Three Censors shall constitute a quorum. The candidate, if his examination prove satisfactory, shall receive a license in the form following, for which he shall pay the sum of five dollars, upon diploma one dollar, for the benefit of the Society:—

STATE OF NEW HAMPSHIRE.

We, the Censors of the New Hampshire Medical Society, duly appointed and authorized, have examined A. B. of C., in the County of D., a candidate for the practice of Physic and Surgery; and, having found him qualified, do approve and license him a Practitioner in Medicine and Surgery, agreeably to law in that case made and provided.

Dated at —— this —— day of —— A. D. 18——.

E. F., G. H., } Censors.

By virtue of the power in me vested, I have hereunto caused the Seal of the New Hampshire Medical Society to be affixed.

I. J., President.

Attest. K. L., Secretary.

ARTICLE IV.

QUALIFICATION FOR MEMBERSHIP.

SECTION 1. Any person who has received a medical degree at any reputable school or university authorized to confer the same, or who has been duly licensed by the Censors of a regularly constituted medical society, and sustains a good moral character, having signified his wish to join the Society, may be proposed by the Council for membership, and voted for at any regular or special meeting of the Society (a majority of two thirds of the votes cast being necessary to constitute a choice); but his election shall be void unless he pay the initiation fee, and subscribe the By-Laws and Regulations before the proceedings are published; which conditions it shall be the duty of the Secretary to communicate to each person, together with the notice of his election. These con-

ditions being complied with, the member elect shall then receive from the Secretary a Certificate of Fellowship in the form following:

STATE OF NEW HAMPSHIRE.

Be it remembered, that at a meeting of the New Hampshire Medical Society, held at Concord, this——day of——A. D. 18—, A. B. was elected a Fellow thereof, and invested with all its rights and privileges.

In testimony of which, the Seal of our Society has been affixed to these presents this——day of——, A. D. 18—.

President.
Secretary.

SEC. 2. Each member shall pay a fee of three dollars on admission into the Society, and an annual tax of two dollars. No member shall be entitled to a copy of the Transactions of the Society until his annual tax has been paid.

SEC. 3. Whenever the annual assessment of any member shall remain unpaid for the term of three years, said member shall forfeit his membership, and may be reinstated only by recommendation of the Council and vote of the Society, on the payment of the same fees required of members on admission. The Treasurer shall notify all such members, prior to the expiration of three years, of the result of said deliquency, by forwarding to their address a copy of this article of the By-Laws.

SEC. 4. A member of a District Society in this State, or of any State Medical Society, may be elected to this Society and become a member on the certificate of the President and Secretary of said local or State Society, that he is a member in good and regular standing, on payment of the same fees required of other members; and he may become a member on such recommendation and election, although not present at the meeting, by authorizing some member to pay his fees and sign the Constitution and By-Laws for him.

DUTIES OF MEMBERS.

SEC. 5. It is expected of each member that he communicate to the Society, verbally or in writing, all occurrences in his practice worthy of special notice, as also all facts calculated to contribute to the improvement of the profession; that he will dispense or use in his practice no secret medicines, the composition of which he withholds from his brethren; that he will, on all occasions, vindicate the character and practice of others, so far as truth and justice

will permit; that he will cheerfully attend and gratuitously advise in all cases of sickness of his brethren of the profession, or their families; and in the case of irregular and unqualified practitioners within the range of his practice, he shall use his influence to discourage their employment by avoiding, so far as prudence will dictate, any professional intercourse with them in the sick room or elsewhere; and in all cases of unavoidable consultation, his advice and directions should be given rather to the patient or friends, than to such attending physician.

RESIGNATIONS.

SEC. 6. No member shall withdraw from this Society, or resign his connection therewith, while a practitioner of medicine or surgery in this State, without the permission of the Councillors. They shall give such permission to any member who applies for the same in writing, after he has attained the age of sixty years; and also to any other member who applies for the same, and gives his reasons in writing, if they deem those reasons to be satisfactory.

RETIRED MEMBERSHIP.

SEC. 7. Those members who, having attained to the age of sixty years, have resigned the Fellowship of this Society by permission of the Councillors, shall, while living, be distinguished in the printed list of the Society by a peculiar mark, and be denominated Retired Members. They shall be entitled to all the privileges, and conform to all the requirements of the Society, and be subject to all its penalties, except that they shall not be liable to assessments, nor be bound to accept any office in the Society.

HONORARY MEMBERSHIP.

SEC. 8. Medical men in this or other States, who have acquired an honorable distinction in their profession, may be proposed by the Council as Honorary Members of this Society. A majority of two thirds of all the votes cast shall be necessary to their election. They shall be distinguished in the printed list by a peculiar mark, and shall enjoy all the privileges of retired members before mentioned.

SEC. 9. Members of other regularly constituted medical societies, in reputable standing, may attend the meetings of the Society

as corresponding members, but are expected to take no part in its deliberations unless invited by special vote.

FORM OF SUBSCRIPTION.

The subscribers agree to comply with the By-Laws and Regulations of the New Hampshire Medical Society.

ARTICLE V.

DISTRICT SOCIETIES.

SECTION 1. Every application for the establishment of a District Society shall be made in writing to the Council, and if approved of by the Society, they shall issue a Charter in the following form, viz. :—

STATE OF NEW HAMPSHIRE.

The Council of the New Hampshire Medical Society, to A. B., and C., Fellows of said Society, GREETING.

Your application, made in due form, requesting that a District Medical Society might be instituted, to consist of the Fellows and Associates residing in the towns of——, was duly considered and approved by the Society, on the——day of——, Anno Domini 18—.

Be it therefore known, that a District Society, by the name of——, is hereby established, to consist of the Fellows of the New Hampshire Medical Society and the Associates now resident in the towns above mentioned, and of such others as they may hereafter elect; and A. B. is hereby authorized to call a meeting of the same, for the purpose of electing officers and transacting any other business necessary for organizing said Society.

In testimony whereof, we have hereunto subscribed our names, this——day of——, Anno Domini 18—.

C. D.,
E. F.,
G. H., } Council.

By virtue of the power in me vested, I have caused the Seal of the New Hampshire Medical Society to be hereunto affixed.

I. J., President.

Attest. K. L., Secretary.

SEC. 2. Each District Society shall transmit an abstract of its proceedings, and such papers as are deemed worthy, to the Executive Committee of the State Society, to be read before the same, provided the Executive Committee deem it expedient; and no by-law or regulation of any District Society shall be valid if it come in competition with, or be repugnant to, the regulations of the General Society.

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